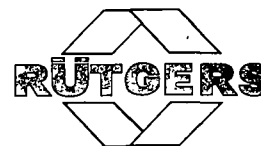


March 19, 2007

VIA CERTIFIED MAIL

Mary Logan
U.S. EPA Region V (SR-6J)
77 W Jackson Boulevard
Chicago, IL 60604-3590



RUTGERS Organics Corporation

Sheila Abraham
Ohio EPA - NE District Office
Div. Of Emergency & Remedial Response
2110 East Aurora Road
Twinsburg, OH 44087

Remedial Response Section Manager
Ohio EPA - DERR
P O Box 1049
Lazarus Government Center Office
122 South Front Street
Columbus, OH 43216-1049

**Re: JANUARY 2007 MONTHLY REPORT
RI/FS & REMEDIAL DESIGN & REMOVAL ACTION
NEASE CHEMICAL SITE
SALEM, OHIO**

In accordance with Paragraph X E of the Administrative Order by Consent regarding a Remedial Investigation/Feasibility Study (RI/FS) of the Nease Chemical Site in Salem, Ohio, attached is a copy of the February 2007 RI/FS Progress Report. This report also includes the monthly progress report for the remedial design (OU-2) in accordance with Paragraph X of the Administrative Order on Consent, effective as of May 10, 2006.

Additionally, in accordance with Paragraph 14 of the Administrative Order by Consent, signed December 17, 1993, attached is a copy of the February 2007 Removal Action Progress Report.

The report delivery after the 10th. calendar day of the month was approved by Mary Logan, US EPA Remedial Site Manager, Please contact us if you have any questions regarding activities discussed in these reports.

Sincerely,

A handwritten signature in black ink that reads "Rainer Domalski".

Dr Rainer F Domalski
Site Coordinator

Enclosures

cc M. Hardy/Heidi Goldstein – Thompson Hine
Steve Finn – Golder Associates, Inc.

031907

201 Struble Road
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Member of the RUTGERS Chemicals Group



**NEASE CHEMICAL SITE, SALEM, OHIO
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
REMEDIAL DESIGN (OU-2)
MONTHLY PROGRESS REPORT
FEBRUARY 2007**

1. INTRODUCTION

This progress report has been prepared in accordance with Paragraph XE of the Administrative Order of Consent (AOC) regarding a Remedial Investigation/Feasibility Study (RI/FS) and Paragraph X of the Administrative Order on Consent regarding the Remedial Design (RD/OU-2) of the Nease Chemical Site in Salem, Ohio. The report summarizes the major RI/FS and RD actions during the month along with investigation results and any problems encountered in the project. Activities planned for next month are also presented.

2 SUMMARY OF ACTIVITIES PERFORMED

2.1 PROJECT ACTIVITY SUMMARY

The activities that were initiated and/or completed during the month are described. All activities were performed in accordance with the detailed protocol provided in the approved Work Plan.

2.2 FIELDWORK

2.2.1 RI/FS

The floodplain soil samples taken in September 2006 were shipped to the OEPA lab for mirex analysis.

2.2.2 RD (OU-2)

According with the PDI workplan the following work was accomplished during this month:

- NZVI Field Pilot Study - The fourth (Week 8) and fifth (Week 12) rounds of groundwater sampling were completed the weeks of January 29 and February 26, 2007, respectively.
- Vapor Intrusion - A site reconnaissance and Indoor Air Assessment Survey was completed on February 22 at residential properties located at 1229 and 1235 Benton Road.

2.3 Reports

2.3.1 RI/FS

In preparation of the upcoming Feasibility Study (FS) for OU-3 (Feeder Creek, MFLBC), the agencies and ROC agreed on additional sampling in the MFLBC including sediment, fish, surface water and flood plain soil to have a sufficient data base for the study. The first step, the reconnaissance of sediment bodies in the MFLBC, was performed from August 1 through 15, 2005. Sediment and fish samples were taken in the week of October 10, 2005, the surface water samples in the last October week. The analytical results of the samples taken were validated by the ROC's technical consultant and submitted to the agencies. Sampling locations for the flood plain soil were determined. ROC has obtained an access agreement with the owners. The actual sampling was conducted in the week of September 18, 2006.

The technical team consisting from representatives of U.S. EPA, Ohio EPA, Golder and ROC had a kick-off meeting on September 27, 2006 in Columbus, Ohio, to commence the work on the Feasibility Study (FS) for the Feeder Creek and MFLBC. A follow-up meeting was conducted on December 13, 2006 discussing potential cleanup goals and methods.

2.3.2 RD (OU-2)

The results of the ongoing PDI field investigation and lab studies are discussed in frequent conference calls between the agencies, ROC and its technical consultant.

Based on the groundwater sampling results in two off-site temporary monitoring wells, it was decided to sample sub-slab soil vapors at two residential homes at Benton Road.

S/S/S Treatability Study – Results of Phase III of the treatability study were evaluated and a technical memorandum providing a status update of the S/S/S, including the Phase III results and proposal for final phase of the Study (Phase IV) was initiated.

PDI Report - Technical Memorandum – Baseline Conditions – Golder is currently preparing the baseline condition report.

2.4 MEETINGS

None.

3 VARIATIONS FROM THE APPROVED WORK PLAN

None.

4 RESULTS OF SAMPLING, TESTS AND ANALYSES

The results from the sampling were and will be provided to the agencies in specific reports.

5 PROJECT SCHEDULE

The current Work Plan schedule identifies completion and target dates for project activities. Those scheduled to occur over the next several months include:

- Feasibility Study OU-3 (Feeder Creek, Middle Fork of Little Beaver Creek)
- Continue PDI field/lab work (NZVI sampling) as well as preparation of PDI Report

6 DIFFICULTIES ENCOUNTERED AND ACTION TAKEN TO RESOLVE PROBLEMS

No significant difficulties were encountered.

7 PERSONNEL CHANGES

None

8 ANTICIPATED PROJECT ACTIVITIES FOR MARCH 2007

- Monthly Progress Report February 2007
- RI/FS
 - OU-3 Feasibility Study
 - Analysis of soil samples recovered during the floodplain sampling in September 2006

- RD (OU-2)
 - Continue with the PDI field work which includes the following:
 - Southern Area Groundwater Assessment – Sub-slab soil vapor sampling at residential properties located at 1229 and 1235 Benton Road and sampling of the NAPL present in temporary wells TW06-21 and TW06-36.
 - Continue with the NZVI Field Pilot Study - Evaluation of results from Weeks 8 and 12 and submittal of proposal for biotreatability of benzene in groundwater.
 - S/S/S Treatability Study - Submittal of a Technical Memorandum summarizing the Phase III results and proposal for treatment method and reagent formulation for the final phase of the Study.
 - Continue with the preparation of the Baseline Conditions Report.

TABLE 1
NEASE CHEMICAL SITE, SALEM, OHIO
R/FS AND RD (OU-2) SCHEDULE

DATE	TASK/ACTIVITY/DELIVERABLE/MILESTONE	
	R/FS	RD (OU-2)
	Documentation of the Site Activities through July 31, 2004 can be reviewed in the July 2004 Monthly Progress Report	
August 30, 2004	US EPA Region VI/ OEPA approve	
September 1, 2004	Endangerment Assessment	
September 9, 2004	Draft Feasibility Study (OU-2)	
September 13, 2004	submitted to the agencies for review	
October 8, 2004	Submit Monthly Progress Report	
November 10, 2004	Submit Final Revision to	
November 22, 2004	Endangerment Assessment	
December 10, 2004	Submit Monthly Progress Report	
January 10, 2005	Submit Monthly Progress Report	
February 10, 2005	Received Agencies' comments for	
March 1, 2005	draft FS (OU-2)	
March 4, 2005	Submit Monthly Progress Report	
April 8, 2005	Submit Monthly Progress Report	
April 21, 2005	Final Draft Feasibility Study (OU-2)	
May 9, 2005	submitted to agencies for review	
May 31, 2005	Submit Monthly Progress Report	
June 9, 2005	US EPA Region V/OEPA approve	
July 8, 2005	Final Feasibility Study for OU-2	
August 10, 2005	Submit Monthly Progress Report	
Aug. 1 – 15, 2005	US EPA Region V published the	
September 9, 2005	Proposed Remedial Action the OU-2 (onsite)	
September 29, 2005	Submit Monthly Progress Report	
October 10, 2005	US EPA Region V signs Final	
	Record of Decision for OU-2	
	Submit Monthly Progress Report	

DATE	TASK/ACTIVITY/DELIVERABLE/MILESTONE	
	RI/FS	RD (OU-2)
November 9, 2005	Submit Monthly Progress Report	
December 8, 2005	Submit Monthly Progress Report	
January 9, 2006	Submit Monthly Progress Report	
February 8, 2006	Submit Monthly Progress Report	
March 15, 2006	Submit Monthly Progress Report	
April 10, 2006	Submit Monthly Progress Report	
May 8, 2006	Submit Monthly Progress Report	
May 10, 2006		Administrative Order on Consent for OU-2 Remedial Design effective
May 25, 2006		Submittal of draft PDI Workplan
June 8, 2006	Submit Monthly Progress Report	
June 9, 2006		ACO Financial Assurance – Trust Fund placed
June 28, 2006		US EPA comments to draft PDI workplan received
July 10, 2006	Submit Monthly Progress Report	
July 12, 2006		Sampling of well PZ-6B-U
Aug. 1, 2006		Submit revised PDI Workplan
Aug. 4, 2006	Submit Monthly Progress Report	
Aug. 21, 2006		Commenced with PDI Fieldwork
Aug. 28, 2006		Conditional Approval of PDI Workplan
Sept. 8, 2006	Submit Monthly Progress Report	
Sept. 18, 2006	Soil Sampling in the MFLBC Flood Plain	
Sept 27, 2006		Submit Final PDI Workplan incl. response to agencies' comments
October 8, 2006	Submit Monthly Progress Report	
Nov. 6, 2006	Submit Monthly Progress Report	
Dec. 12, 2006	Submit Monthly Progress Report	
Dec. 13, 2006	OU-3 Meeting in US EPA Chicago Office	
Jan. 8, 2007	Submit Monthly Progress Report	
Febr. 6, 2007	Submit Monthly Progress Report	
March 19, 2007	Submit Monthly Progress Report	

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**NEASE CHEMICAL SITE, SALEM, OHIO
REMOVAL ACTION
MONTHLY PROGRESS REPORT
FEBRUARY 2007**

1.0 INTRODUCTION

This progress report has been prepared in accordance with Paragraph 14 of the "Order" section of the Administrative Order by Consent (AOC) Docket No. V-W-94-C-212, effective November 17, 1993, regarding a Removal Action for the Nease Chemical Site in Salem, Ohio. The report summarizes the major activities during the month along with investigation results and any problems encountered on the project. Activities planned for next month are also presented.

2.0 SUMMARY OF ACTIVITIES PERFORMED

2.1 PROJECT ACTIVITY

The activities that were initiated and/or completed during this month are described below. Activities were performed in accordance with the Removal Action AOC.

The agencies and ROC discussed modifications of the existing onsite groundwater treatment system to optimize the protection against spills. ROC summarized the modifications agreed by the parties in a letter to the agencies. The contractor bids were received and will be awarded.

2.2 WORK PLAN PREPARATION/REPORTS

No work plans/reports were submitted this period.

2.3 FIELDWORK

2.3.1 SITE INSPECTIONS

The results of the monthly site inspection carried out at the site on February 23, 2007 are shown in Attachment 1.

2.3.2 MONTHLY WATER LEVEL MEASUREMENTS

The next water level measurements will be conducted in March 2007.

2.3.3 TREATMENT PLANT OPERATION

The treatment plant operated mostly normal throughout the month.

2.4.1.1 MEETINGS

None

3.0 VARIATIONS FROM THE APPROVED REMOVAL ACTION WORK PLAN

None

4.0 RESULTS OF INSPECTIONS, ENVIRONMENTAL SAMPLING, TESTS AND ANALYSES

Water monitoring samples were collected from the treatment plant on February 6 and (see Attachments 2 and 3). The next Acute/Chronic Toxicity Evaluations was conducted from February 20 to 24, 2007 and from February 20 to 27, 2007 (see Attachment 4 and 5).

5.0 PROJECT SCHEDULE

The updated Work Plan schedule identifies completion and target dates for project activities.

6.0 DIFFICULTIES ENCOUNTERED AND ACTION TAKEN TO RESOLVE PROBLEMS

None

7.0 PERSONNEL CHANGES

No personnel changes occurred during month

8.0 TYPES AND QUANTITIES OF REMOVED MATERIALS

For the period from February 1 through 28, 2007 the following material was removed:

- 15,600 gallons of leachate and/or backwash water were disposed off-site at a licensed treatment facility.
- Approximately 106,439 gallons were pumped from Leachate Collection System 1 (LCS-1) (total for LCS-1 = 19,788,332 gal).
- Approximately 13,948 gallons were pumped from Leachate Collection System 2 (LCS-2) (total for LCS-2 = 1,543,355 gal).
- No water was pumped from Pond 1 (total for the pond = 1,021,138/ gallons).
- Approximately 19 pounds of organic compounds were removed during pumping (estimate based on average VOC/SVOC concentrations for each source).

9.0 ANTICIPATED PROJECT ACTIVITIES FOR MARCH 2007

Removal Action activities scheduled for the upcoming month include on-going implementation of the approved Removal Action Work Plan involving:

- Collection of groundwater from the existing collection systems LCS-1, LCS-2 and Pond 1.
- Implementation of planned treatment plant modifications
- Monthly Progress Report for February 2007

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TABLE 1
NEASE CHEMICAL SITE, SALEM, OHIO
REMOVAL ACTION SCHEDULE

DATE	TASK/ACTIVITY/DELIVERABLE/MILESTONE
	Documentation of the Site Activities through July 31, 2004 can be reviewed in the July 2004 Monthly Progress Report
September 9, 2004	Submit Monthly Progress Report
October 8, 2004	Submit Monthly Progress Report
November 10, 2004	Submit Monthly Progress Report
December 10, 2004	Submit Monthly Progress Report
January 10, 2005	Submit Monthly Progress Report
February 10, 2005	Submit Monthly Progress Report
March 4, 2005	Submit Monthly Progress Report
April 8, 2005	Submit Monthly Progress Report
May 9, 2005	Submit Monthly Progress Report
June 9, 2005	Submit Monthly progress Report
July 8, 2005	Submit Monthly Progress Report
August 10, 2005	Submit Monthly Progress Report
September 9, 2005	Submit Monthly Progress Report
October 10, 2005	Submit Monthly Progress Report
November 9, 2005	Submit Monthly Progress Report
December 8, 2005	Submit Monthly Progress Report
January 9, 2006	Submit Monthly Progress Report
February 8, 2006	Submit Monthly Progress Report
March 15, 2006	Submit Monthly Progress Report
April 10, 2006	Submit Monthly Progress Report
May 8, 2006	Submit Monthly Progress Report
June 8, 2006	Submit Monthly Progress Report
July 10, 2006	Submit Monthly Progress Report
August 4, 2006	Submit Monthly Progress Report
September 8, 2006	Submit Monthly Progress Report
October 8, 2006	Submit Monthly Progress Report
November 6, 2006	Submit Monthly Progress Report
December 12, 2006	Submit Monthly Progress Report
January 8, 2007	Submit Monthly Progress Report
February 6, 2007	Submit Monthly Progress Report
March 19, 2007	Submit Monthly Progress Report

ATTACHMENT 1
RESULTS OF MONTHLY SITE INSPECTION
NEASE CHEMICAL SITE, SALEM, OHIO
FEBRUARY 2007

SITE INSPECTION FORM
RUETGERS-NEASE CORPORATION
Nease Site, Salem, Ohio

Date of Inspection: 2-23-07

Entry Time: 930 Exit Time: 1330

Weather: LT. SNOW 20°

Inspector's Name: DENNIS L. LANE

Inspector's Company: Howells and Baird, Inc.

INSPECTION RESULTS

SPECIFIC OBSERVATIONS: Structures

(Responses: S = Satisfactory U = Unsatisfactory Yes/No Levels Measured in Feet, N/A = Not Applicable)

	Pump	Quick Connect	Water Level	Berm Erosion	Visible Leakage
Leachate Collection System 1 (LCS-1)	S	S	9.04	N/A	No
Leachate Collection System 2 (LCS-2)	S	S	9.50	N/A	No
Pond 1 Pumphouse	S	S	8.59	N/A	No
Pond 1 Berm	N/A	N/A	N/A	No	No
Pond 2 Embankment	N/A	N/A	N/A	No	No
Exclusion Area A Embankment	N/A	N/A	N/A	No	No
Storage Tank	N/A	S	3.76	N/A	No
Other (specify)					

SPECIFIC OBSERVATIONS:

Sediment Barriers

Condition of Sediment Barriers

Barrier ID	Fabric Intact?	By Passing Evident?	Is Maintenance Necessary?
Sediment Control Structure 1	YES	No	No
Sediment Control Structure 2	YES	No	No
Fabric Barrier 2	YES	No	No
Fabric Barrier 3	YES	No	No
Fabric Barrier 4	YES	No	No
Fabric Barrier 5	YES	No	No
Fabric Barrier 8	YES	No	No
Fabric Barrier 9	YES	No	No
Fabric Barrier 10	YES	No	No
Rock Barrier 1	YES	No	No
Rock Barrier 2	YES	No	No
Pond 7 - North	YES	No	No
Pond 7 - South	YES	No	No

SPECIFIC OBSERVATIONS:

Seeps (if present, use more forms, as necessary)

Seep ID (yr-month-#)	Located on Map	Areal Extent (ft ²)	Magnitude (flow?, ponding?)
94-7-1	YES	20	Non-Flowing Seep
96-8-2	YES	20	Non-Flowing Seep

Note: Seep ID # equal the "nth" observed seep during the yr-month in question

ADDITIONAL OBSERVATION OR REMARKS:

Inspector's Name:

DENNIS L. LANE

Inspector's Signature:

Dennis L. Lane

Date:

2-23-07

ATTACHMENT 2

**WATER SAMPLING RESULTS – FEBRUARY 6, 2007
NEASE CHEMICAL SITE, SALEM, OHIO**

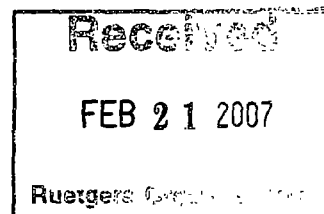


STL

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North Canton, OH 44720

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ANALYTICAL REPORT



SALEM, OHIO SITE

Lot #: A7B070147

Dr. Rainer Domalski

Rutgers Organics Corporation
201 Struble Road
State College, PA 16801

SEVERN TRENT LABORATORIES, INC.

Kenneth J. Kuzior
Project Manager

February 19, 2007

CASE NARRATIVE

A7B070147

The following report contains the analytical results for two water samples submitted to STL North Canton by Rutgers Organics Corporation from the Salem, Ohio Site. The samples were received February 07, 2007, according to documented sample acceptance procedures.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dr. Rainer Domalski on February 16, 2007. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Kenneth J. Kuzior, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 18.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperature of the cooler upon sample receipt was 0.8°C.

GENERAL CHEMISTRY

The analytical results met the requirements of the laboratory's QA/QC program.

EXECUTIVE SUMMARY - Detection Highlights

A7B070147

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
INFLUENT 2-6-07 02/06/07 13:00 001				
Nitrite as N	0.15	0.10	mg/L	MCAWW 300.0A
OUTFALL 2-6-07 02/06/07 13:00 002				
Total phosphorus	0.1	0.1	mg/L	MCAWW 365.2
Nitrite as N	0.14	0.10	mg/L	MCAWW 300.0A

ANALYTICAL METHODS SUMMARY

A7B070147

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Ammonia Nitrogen	MCAWW 350.2
Nitrate as N	MCAWW 300.0A
Nitrite as N	MCAWW 300.0A
Total phosphorus	MCAWW 365.2

References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",
EPA-600/4-79-020, March 1983 and subsequent revisions.

SAMPLE SUMMARY

A7B070147

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
JN2PK	001	INFLUENT 2-6-07	02/06/07	13:00
JN2PM	002	OUTFALL 2-6-07	02/06/07	13:00

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages
- All calculations are performed before rounding to avoid round-off errors in calculated results
- Results noted as "ND" were not detected at or above the stated limit
- This report must not be reproduced, except in full, without the written approval of the laboratory
- Results for the following parameters are never reported on a dry weight basis color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight

Rutgers Organics Corporation

Client Sample ID: INFLUENT 2-6-07

General Chemistry

Lot-Sample #....: A7B070147-001 Work Order #....: JN2PK Matrix.....: WG
Date Sampled...: 02/06/07 13:00 Date Received...: 02/07/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Nitrate as N	ND	0.10	mg/L	MCAWW 300.0A	02/07/07	7039034
		Dilution Factor: 1				
Nitrite as N	0.15	0.10	mg/L	MCAWW 300.0A	02/07/07	7039035
		Dilution Factor: 1				
Nitrogen, as Ammonia	ND	2.0	mg/L	MCAWW 350.2	02/16/07	7047242
		Dilution Factor: 1				
Total phosphorus	ND	0.1	mg/L	MCAWW 365.2	02/12/07	7044140
		Dilution Factor: 1				

Rutgers Organics Corporation

Client Sample ID: OUTFALL 2-6-07

General Chemistry

Lot-Sample #....: A7B070147-002 Work Order #....: JN2PM Matrix.....: WG
Date Sampled....: 02/06/07 13:00 Date Received...: 02/07/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Nitrate as N	ND	0.10	mg/L	MCAWW 300.0A	02/07/07	7039034
		Dilution Factor: 1				
Nitrite as N	0.14	0.10	mg/L	MCAWW 300.0A	02/07/07	7039035
		Dilution Factor: 1				
Nitrogen, as Ammonia	ND	2.0	mg/L	MCAWW 350.2	02/16/07	7047242
		Dilution Factor: 1				
Total phosphorus	0.1	0.1	mg/L	MCAWW 365.2	02/15/07	7046425
		Dilution Factor: 1				

ATTACHMENT 3

**WATER SAMPLING RESULTS – FEBRUARY 20, 2007
NEASE CHEMICAL SITE, SALEM, OHIO**



STL

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ANALYTICAL REPORT

SALEM, OHIO SITE

Lot #: A7B210221

Dr. Rainer Domalski

Rutgers Organics Corporation
201 Struble Road
State College, PA 16801

SEVERN TRENT LABORATORIES, INC.

A handwritten signature in black ink, appearing to read "Kenneth J. Kuzior".

Kenneth J. Kuzior
Project Manager

March 15, 2007

CASE NARRATIVE

A7B210221

The following report contains the analytical results for two air samples, three water samples and one quality control sample submitted to STL North Canton by Rutgers Organics Corporation from the Salem, Ohio Site. The samples were received February 21, 2007, according to documented sample acceptance procedures.

The Air, TO-14A Volatile Organics analysis was performed at the STL Knoxville laboratory.

The Pests (MPK) analysis was subcontracted to Exygen Research. A copy of their report has been provided.

STL utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Dr. Rainer Domalski on March 05, 2007. A summary of QC data for these analyses is included at the back of the report.

STL North Canton attests to the validity of the laboratory data generated by STL facilities reported herein. All analyses performed by STL facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. STL's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

If you have any questions, please call the Project Manager, Kenneth J. Kuzior, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT." The total number of pages in this report is 70.

SUPPLEMENTAL QC INFORMATION

SAMPLE RECEIVING

The temperatures of the coolers upon sample receipt were 1.7 and 2.1°C.

CASE NARRATIVE (continued)

GC/MS VOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

GC/MS SEMIVOLATILES

The sample(s) that contained concentrations of target analyte(s) at a reportable level in the associated Method Blank(s) were flagged with "B". All target analytes in the Method Blank must be below the reporting limit (RL) or the associated sample(s) must be ND with the exception of common laboratory contaminants.

The sample(s) that contain results between the MDL and the RL were flagged with "J". There is a possibility of false positive or mis-identification at these quantitation levels. In analytical methods requiring confirmation of the analyte reported, confirmation was performed only down to the standard reporting limit (SRL). The acceptance criteria for QC samples may not be met at these quantitation levels.

Sample(s) OUTFALL 2-20-07 and the LCS associated with batch(es) 7052428 had surrogates that were double spiked. These recoveries were adjusted accordingly.

PESTICIDES-8081

There were no client requested Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples in batch(es) 7053333. Therefore, the laboratory has included a Laboratory Control Sample Duplicate (LCSD) in the QC batch. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system.

METALS

The matrix spike/matrix spike duplicate(s) for OUTFALL 2-20-07 had RPD's and recoveries outside acceptance limits. However, since the associated method blank(s) and laboratory control sample(s) were in control, no corrective action was necessary.

CASE NARRATIVE (continued)

GENERAL CHEMISTRY

The analytical results met the requirements of the laboratory's QA/QC program.

ANALYTICAL METHODS SUMMARY

A7B210221

PARAMETER	ANALYTICAL METHOD
pH Aqueous	SW846 9040B
Ammonia Nitrogen	MCAWW 350.2
Biochemical Oxygen Demand	MCAWW 405.1
Chemical Oxygen Demand	MCAWW 410.4
Filterable Residue (TDS)	MCAWW 160.1
Free Cyanide	SM18 4500-CN-I
ICP-MS (6020)	SW846 6020
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A
N-Hexane Extractable Material (1664A)	CFR136A 1664A HEM
Non-Filterable Residue (TSS)	MCAWW 160.2
Organochlorine Pesticides	SW846 8081A
Semivolatile Organic Compounds by GC/MS	SW846 8270C
Total Organic Carbon	SW846 9060
Volatile Organics by GC/MS	SW846 8260B
Volatile Organics by TO14 A (Low Level)	EPA-2 TO-14A

References:

- CFR136A "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
- EPA-2 "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air", EPA-625/R-96/010b, January 1999.
- MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.
- SM18 "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

A7B210221

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
JPR6Q	001	INFLUENT 2-20-07	02/20/07	13:00
JPR67	002	LGAC 2-3-2-20-07	02/20/07	13:00
JPR7F	003	OUTFALL 2-20-07	02/20/07	13:00
JPR72	004	TRIP BLANK	02/20/07	
JPR73	005	AGAC 1-2-2-20-07	02/20/07	13:00
JPR8G	006	AGAC-F-2-20-07	02/20/07	13:00

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages
- All calculations are performed before rounding to avoid round-off errors in calculated results
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight

Rutgers Organics Corporation

Client Sample ID: LGAC 2-3-2-20-07

GC/MS Volatiles

Lot-Sample #....: A7B210221-002 Work Order #....: JPR671AF Matrix.....: WG
 Date Sampled...: 02/20/07 13:00 Date Received...: 02/21/07
 Prep Date.....: 02/23/07 Analysis Date...: 02/23/07
 Prep Batch #....: 7057069
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromobenzene	ND	1.0	ug/L
Bromochloromethane	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
n-Butylbenzene	ND	1.0	ug/L
sec-Butylbenzene	ND	1.0	ug/L
tert-Butylbenzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	1.0	ug/L
2-Chlorotoluene	ND	1.0	ug/L
4-Chlorotoluene	ND	1.0	ug/L
1,2-Dibromoethane	ND	1.0	ug/L
Dibromomethane	ND	1.0	ug/L
1,2-Dichlorobenzene	0.22 J	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
1,3-Dichloropropane	ND	1.0	ug/L
2,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
1,1-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Isopropylbenzene	ND	1.0	ug/L
p-Isopropyltoluene	ND	1.0	ug/L

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Rutgers Organics Corporation

Client Sample ID: LGAC 2-3-2-20-07

GC/MS Volatiles

Lot-Sample #....: A7B210221-002 Work Order #....: JPR671AF Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methylene chloride	ND	1.0	ug/L
n-Propylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L
1,2,3-Trichloropropane	ND	1.0	ug/L
1,2,4-Trimethylbenzene	ND	1.0	ug/L
1,3,5-Trimethylbenzene	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	2.0	ug/L
o-Xylene	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	85	(73 - 122)
1,2-Dichloroethane-d4	80	(61 - 128)
Toluene-d8	87	(76 - 110)
4-Bromofluorobenzene	87	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

Rutgers Organics Corporation

Client Sample ID: LGAC 2-3-2-20-07

General Chemistry

Lot-Sample #...: A7B210221-002 Work Order #...: JPR67 Matrix.....: WG
 Date Sampled...: 02/20/07 13:00 Date Received...: 02/21/07

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
pH (liquid)	7.9		No Units	SW846 9040B	02/21/07	7053027
			Dilution Factor: 1			
Total Dissolved Solids	510	10	mg/L	MCAWW 160.1	02/23-02/26/07	7054293
			Dilution Factor: 1			
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	02/22/07	7053113
			Dilution Factor: 1			

Rutgers Organics Corporation

Client Sample ID: OUTFALL 2-20-07

GC/MS Volatiles

Lot-Sample #....: A7B210221-003 Work Order #....: JPR7F1AN Matrix.....: WG
 Date Sampled....: 02/20/07 13:00 Date Received...: 02/21/07
 Prep Date.....: 02/23/07 Analysis Date...: 02/23/07
 Prep Batch #....: 7057069
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING	
		LIMIT	UNITS
Acetone	ND	10	ug/L
Benzene	ND	1.0	ug/L
Bromobenzene	ND	1.0	ug/L
Bromochloromethane	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
n-Butylbenzene	ND	1.0	ug/L
sec-Butylbenzene	ND	1.0	ug/L
tert-Butylbenzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	1.0	ug/L
2-Chlorotoluene	ND	1.0	ug/L
4-Chlorotoluene	ND	1.0	ug/L
1,2-Dibromoethane	ND	1.0	ug/L
Dibromomethane	ND	1.0	ug/L
1,2-Dichlorobenzene	0.20 J	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
1,3-Dichloropropane	ND	1.0	ug/L
2,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
1,1-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Isopropylbenzene	ND	1.0	ug/L
p-Isopropyltoluene	ND	1.0	ug/L

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Rutgers Organics Corporation

Client Sample ID: OUTFALL 2-20-07

GC/MS Volatiles

Lot-Sample #....: A7B210221-003 Work Order #....: JPR7F1AN Matrix.....: WG

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methylene chloride	ND	1.0	ug/L
n-Propylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L
1,2,3-Trichloropropane	ND	1.0	ug/L
1,2,4-Trimethylbenzene	ND	1.0	ug/L
1,3,5-Trimethylbenzene	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	2.0	ug/L
o-Xylene	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	87	(73 - 122)
1,2-Dichloroethane-d4	80	(61 - 128)
Toluene-d8	87	(76 - 110)
4-Bromofluorobenzene	87	(74 - 116)

NOTE(S) :

J Estimated result. Result is less than RL.

Rutgers Organics Corporation

Client Sample ID: OUTFALL 2-20-07

GC/MS Semivolatiles

Lot-Sample #....: A7B210221-003 Work Order #....: JPR7F1AM Matrix.....: WG
 Date Sampled....: 02/20/07 13:00 Date Received...: 02/21/07
 Prep Date.....: 02/21/07 Analysis Date...: 02/27/07
 Prep Batch #....: 7052428
 Dilution Factor: 1 Method.....: SW846 8270C

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Anthracene	ND	10	ug/L
Benzo(a)anthracene	ND	10	ug/L
Benzo(b)fluoranthene	ND	10	ug/L
Benzo(k)fluoranthene	ND	10	ug/L
Benzo(ghi)perylene	ND	10	ug/L
Benzo(a)pyrene	ND	10	ug/L
Butyl benzyl phthalate	ND	10	ug/L
Chrysene	ND	10	ug/L
Dibenz(a,h)anthracene	ND	10	ug/L
Di-n-butyl phthalate	0.68 J,B	10	ug/L
1,2-Dichlorobenzene	ND	10	ug/L
1,3-Dichlorobenzene	ND	10	ug/L
1,4-Dichlorobenzene	ND	10	ug/L
Dimethyl phthalate	ND	10	ug/L
Fluorene	ND	10	ug/L
Indeno(1,2,3-cd)pyrene	ND	10	ug/L
2-Methylnaphthalene	ND	10	ug/L
4-Methylphenol	ND	10	ug/L
Naphthalene	ND	10	ug/L
Phenanthrene	ND	10	ug/L
Phenol	ND	10	ug/L
Pyrene	ND	10	ug/L
Phenyl sulfone	ND	2.0	ug/L
3,4-Dichloronitrobenzene	ND	10	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Nitrobenzene-d5	69	(27 - 111)
2-Fluorobiphenyl	61	(28 - 110)
Terphenyl-d14	72	(37 - 119)
Phenol-d5	55	(10 - 110)
2-Fluorophenol	61	(10 - 110)
2,4,6-Tribromophenol	57	(22 - 120)

NOTE(S) :

J Estimated result Result is less than RL.

B Method blank contamination The associated method blank contains the target analyte at a reportable level.

Rutgers Organics Corporation

Client Sample ID: OUTFALL 2-20-07

GC Semivolatiles

Lot-Sample #...: A7B210221~003 Work Order #...: JPR7F1AG Matrix.....: WG
 Date Sampled...: 02/20/07 13:00 Date Received...: 02/21/07
 Prep Date.....: 02/22/07 Analysis Date...: 02/23/07
 Prep Batch #...: 7053333
 Dilution Factor: 1 Method.....: SW846 8081A

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>
Methoxychlor	ND	0.10	ug/L

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
Tetrachloro-m-xylene	44	(39 - 130)
Decachlorobiphenyl	48	(10 - 147)

Rutgers Organics Corporation

Client Sample ID: OUTFALL 2-20-07

TOTAL Metals

Lot-Sample #...: A7B210221-003

Matrix.....: WG

Date Sampled...: 02/20/07 13:00 Date Received...: 02/21/07

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>WORK ORDER #</u>
Prep Batch #...: 7053017						
Aluminum	0.050	0.050	mg/L	SW846 6020	02/22-02/28/07	JPR7F1AP
		Dilution Factor: 1				
Antimony	ND	0.0020	mg/L	SW846 6020	02/22-02/28/07	JPR7F1AQ
		Dilution Factor: 1				
Arsenic	0.013	0.0010	mg/L	SW846 6020	02/22-02/28/07	JPR7F1AR
		Dilution Factor: 1				
Beryllium	ND	0.0010	mg/L	SW846 6020	02/22-02/28/07	JPR7F1AT
		Dilution Factor: 1				
Cadmium	ND	0.0010	mg/L	SW846 6020	02/22-02/28/07	JPR7F1AU
		Dilution Factor: 1				
Chromium	ND	0.0020	mg/L	SW846 6020	02/22-02/28/07	JPR7F1AV
		Dilution Factor: 1				
Copper	0.0023	0.0020	mg/L	SW846 6020	02/22-02/28/07	JPR7F1AW
		Dilution Factor: 1				
Iron	0.66	0.020	mg/L	SW846 6020	02/22-02/28/07	JPR7F1AX
		Dilution Factor: 1				
Lead	ND	0.0010	mg/L	SW846 6020	02/22-02/28/07	JPR7F1A0
		Dilution Factor: 1				
Nickel	0.0051	0.0020	mg/L	SW846 6020	02/22-02/28/07	JPR7F1A1
		Dilution Factor: 1				
Silver	ND	0.0010	mg/L	SW846 6020	02/22-02/28/07	JPR7F1A2
		Dilution Factor: 1				
Thallium	ND	0.0010	mg/L	SW846 6020	02/22-02/28/07	JPR7F1A3
		Dilution Factor: 1				
Zinc	ND	0.010	mg/L	SW846 6020	02/22-02/28/07	JPR7F1A4
		Dilution Factor: 1				
Mercury	ND	0.00020	mg/L	SW846 7470A	02/22/07	JPR7F1A5
		Dilution Factor: 1				

Rutgers Organics Corporation

Client Sample ID: OUTFALL 2-20-07

General Chemistry

Lot-Sample #...: A7B210221-003 Work Order #...: JPR7F Matrix.....: WG
Date Sampled...: 02/20/07 13:00 Date Received...: 02/21/07

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
n-Hexane Extractable Material	ND	5.0	mg/L	CFR136A 1664A HEM	02/27/07	7058457
		Dilution Factor: 1				
pH (liquid)	8.0		No Units	SW846 9040B	02/21/07	7053027
		Dilution Factor: 1				
Biochemical Oxygen Demand (BOD)	ND	2	mg/L	MCAWW 405.1	02/22-02/27/07	7053502
		Dilution Factor: 1				
Chemical Oxygen Demand (COD)	ND	20	mg/L	MCAWW 410.4	02/22/07	7053275
		Dilution Factor: 1				
Cyanide (Free)	ND	0.010	mg/L	SM18 4500-CN-I	02/28/07	7059490
		Dilution Factor: 1				
Nitrogen, as Ammonia	ND	2.0	mg/L	MCAWW 350.2	02/22/07	7053271
		Dilution Factor: 1				
Total Dissolved Solids	510	10	mg/L	MCAWW 160.1	02/23-02/26/07	7054293
		Dilution Factor: 1				
Total Organic Carbon	ND	1	mg/L	SW846 9060	03/02/07	7064125
		Dilution Factor: 1				
Total Suspended Solids	ND	4.0	mg/L	MCAWW 160.2	02/22/07	7053113
		Dilution Factor: 1				

Rutgers Organics Corporation

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #....: A7B210221-004 Work Order #....: JPR721AA Matrix.....: WQ
 Date Sampled...: 02/20/07 Date Received...: 02/21/07
 Prep Date.....: 02/23/07 Analysis Date...: 02/23/07
 Prep Batch #....: 7057069
 Dilution Factor: 1 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Acetone	2.6 J	10	ug/L
Benzene	ND	1.0	ug/L
Bromobenzene	ND	1.0	ug/L
Bromochloromethane	ND	1.0	ug/L
Bromodichloromethane	ND	1.0	ug/L
Bromoform	ND	1.0	ug/L
Bromomethane	ND	1.0	ug/L
2-Butanone	ND	10	ug/L
n-Butylbenzene	ND	1.0	ug/L
sec-Butylbenzene	ND	1.0	ug/L
tert-Butylbenzene	ND	1.0	ug/L
Carbon tetrachloride	ND	1.0	ug/L
Chlorobenzene	ND	1.0	ug/L
Dibromochloromethane	ND	1.0	ug/L
Chloroethane	ND	1.0	ug/L
Chloroform	ND	1.0	ug/L
Chloromethane	ND	1.0	ug/L
2-Chlorotoluene	ND	1.0	ug/L
4-Chlorotoluene	ND	1.0	ug/L
1,2-Dibromoethane	ND	1.0	ug/L
Dibromomethane	ND	1.0	ug/L
1,2-Dichlorobenzene	ND	1.0	ug/L
1,3-Dichlorobenzene	ND	1.0	ug/L
1,4-Dichlorobenzene	ND	1.0	ug/L
Dichlorodifluoromethane	ND	1.0	ug/L
1,1-Dichloroethane	ND	1.0	ug/L
1,2-Dichloroethane	ND	1.0	ug/L
cis-1,2-Dichloroethene	ND	1.0	ug/L
trans-1,2-Dichloroethene	ND	1.0	ug/L
1,1-Dichloroethene	ND	1.0	ug/L
1,2-Dichloropropane	ND	1.0	ug/L
1,3-Dichloropropane	ND	1.0	ug/L
2,2-Dichloropropane	ND	1.0	ug/L
cis-1,3-Dichloropropene	ND	1.0	ug/L
trans-1,3-Dichloropropene	ND	1.0	ug/L
1,1-Dichloropropene	ND	1.0	ug/L
Ethylbenzene	ND	1.0	ug/L
Isopropylbenzene	ND	1.0	ug/L
p-Isopropyltoluene	ND	1.0	ug/L

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Rutgers Organics Corporation

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #....: A7B210221-004 Work Order #....: JPR721AA Matrix.....: WQ

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methylene chloride	1.0 B	1.0	ug/L
n-Propylbenzene	ND	1.0	ug/L
Styrene	ND	1.0	ug/L
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L
Tetrachloroethene	ND	1.0	ug/L
Toluene	ND	1.0	ug/L
1,1,1-Trichloroethane	ND	1.0	ug/L
1,1,2-Trichloroethane	ND	1.0	ug/L
Trichloroethene	ND	1.0	ug/L
Trichlorofluoromethane	ND	1.0	ug/L
1,2,3-Trichloropropane	ND	1.0	ug/L
1,2,4-Trimethylbenzene	ND	1.0	ug/L
1,3,5-Trimethylbenzene	ND	1.0	ug/L
Vinyl chloride	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	2.0	ug/L
o-Xylene	ND	1.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Dibromofluoromethane	83	(73 - 122)
1,2-Dichloroethane-d4	82	(61 - 128)
Toluene-d8	87	(76 - 110)
4-Bromofluorobenzene	85	(74 - 116)

NOTE(S) :

J Estimated result Result is less than RL.

B Method blank contamination The associated method blank contains the target analyte at a reportable level

Rutgers Organics Corporation

Client Sample ID: AGAC 1-2-2-20-07

GC/MS Volatiles

Lot-Sample #....: A7B210221-005 Work Order #....: JPR731AA Matrix.....: AA
 Date Sampled....: 02/20/07 13:00 Date Received...: 02/21/07
 Prep Date.....: 02/23/07 Analysis Date...: 02/23/07
 Prep Batch #....: 7054570
 Dilution Factor: 2.5 Method.....: EPA-2 TO-14A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	0.50	ppb (v/v)
Bromodichloromethane	ND	0.50	ppb (v/v)
Bromoform	ND	0.50	ppb (v/v)
Carbon tetrachloride	ND	0.50	ppb (v/v)
Chlorobenzene	ND	0.50	ppb (v/v)
Dibromochloromethane	ND	0.50	ppb (v/v)
Chloroethane	ND	0.50	ppb (v/v)
Chloroform	ND	0.50	ppb (v/v)
1,2-Dibromoethane (EDB)	ND	0.50	ppb (v/v)
Dibromomethane	ND	1.0	ppb (v/v)
1,2-Dichlorobenzene	14	0.50	ppb (v/v)
1,3-Dichlorobenzene	ND	0.50	ppb (v/v)
1,4-Dichlorobenzene	ND	0.50	ppb (v/v)
Dichlorodifluoromethane	ND	0.50	ppb (v/v)
1,1-Dichloroethane	ND	0.50	ppb (v/v)
1,2-Dichloroethane	ND	0.50	ppb (v/v)
cis-1,2-Dichloroethene	1.7	0.50	ppb (v/v)
trans-1,2-Dichloroethene	ND	0.50	ppb (v/v)
1,1-Dichloroethene	ND	0.50	ppb (v/v)
1,2-Dichloropropane	ND	0.50	ppb (v/v)
cis-1,3-Dichloropropene	ND	0.50	ppb (v/v)
trans-1,3-Dichloropropene	ND	0.50	ppb (v/v)
Ethylbenzene	ND	0.50	ppb (v/v)
Cumene	ND	1.0	ppb (v/v)
n-Propylbenzene	ND	1.0	ppb (v/v)
Styrene	ND	0.50	ppb (v/v)
1,1,2,2-Tetrachloroethane	ND	0.50	ppb (v/v)
Tetrachloroethene	ND	0.50	ppb (v/v)
Toluene	ND	0.50	ppb (v/v)
1,1,1-Trichloroethane	ND	0.50	ppb (v/v)
1,1,2-Trichloroethane	ND	0.50	ppb (v/v)
Trichloroethene	ND	0.50	ppb (v/v)
Trichlorofluoromethane	ND	0.50	ppb (v/v)
1,2,3-Trichloropropane	ND	1.2	ppb (v/v)
1,3,5-Trimethylbenzene	ND	0.50	ppb (v/v)
Vinyl chloride	ND	0.50	ppb (v/v)
m-Xylene & p-Xylene	ND	0.50	ppb (v/v)
o-Xylene	ND	0.50	ppb (v/v)

(Continued on next page)

Rutgers Organics Corporation

Client Sample ID: AGAC 1-2-2-20-07

GC/MS Volatiles

Lot-Sample #...: A7B210221-005 Work Order #...: JPR731AA Matrix.....: AA

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
1,2-Dichloroethane-d4	106	(70 - 130)
Toluene-d8	106	(70 - 130)
4-Bromofluorobenzene	96	(70 - 130)

Rutgers Organics Corporation

Client Sample ID: AGAC-F-2-20-07

GC/MS Volatiles

Lot-Sample #....: A7B210221-006 Work Order #....: JPR8G1AA Matrix.....: AA
 Date Sampled....: 02/20/07 13:00 Date Received...: 02/21/07
 Prep Date.....: 02/23/07 Analysis Date...: 02/23/07
 Prep Batch #....: 7054570
 Dilution Factor: 2.5 Method.....: EPA-2 TO-14A

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Benzene	ND	0.50	ppb (v/v)
Bromodichloromethane	ND	0.50	ppb (v/v)
Bromoform	ND	0.50	ppb (v/v)
Carbon tetrachloride	ND	0.50	ppb (v/v)
Chlorobenzene	ND	0.50	ppb (v/v)
Dibromochloromethane	ND	0.50	ppb (v/v)
Chloroethane	ND	0.50	ppb (v/v)
Chloroform	ND	0.50	ppb (v/v)
1,2-Dibromoethane (EDB)	ND	0.50	ppb (v/v)
Dibromomethane	ND	1.0	ppb (v/v)
1,2-Dichlorobenzene	2.5	0.50	ppb (v/v)
1,3-Dichlorobenzene	ND	0.50	ppb (v/v)
1,4-Dichlorobenzene	ND	0.50	ppb (v/v)
Dichlorodifluoromethane	ND	0.50	ppb (v/v)
1,1-Dichloroethane	ND	0.50	ppb (v/v)
1,2-Dichloroethane	ND	0.50	ppb (v/v)
cis-1,2-Dichloroethene	1.9	0.50	ppb (v/v)
trans-1,2-Dichloroethene	ND	0.50	ppb (v/v)
1,1-Dichloroethene	ND	0.50	ppb (v/v)
1,2-Dichloropropane	ND	0.50	ppb (v/v)
cis-1,3-Dichloropropene	ND	0.50	ppb (v/v)
trans-1,3-Dichloropropene	ND	0.50	ppb (v/v)
Ethylbenzene	ND	0.50	ppb (v/v)
Cumene	ND	1.0	ppb (v/v)
n-Propylbenzene	ND	1.0	ppb (v/v)
Styrene	ND	0.50	ppb (v/v)
1,1,2,2-Tetrachloroethane	ND	0.50	ppb (v/v)
Tetrachloroethene	ND	0.50	ppb (v/v)
Toluene	0.54	0.50	ppb (v/v)
1,1,1-Trichloroethane	ND	0.50	ppb (v/v)
1,1,2-Trichloroethane	ND	0.50	ppb (v/v)
Trichloroethene	ND	0.50	ppb (v/v)
Trichlorofluoromethane	ND	0.50	ppb (v/v)
1,2,3-Trichloropropane	ND	1.2	ppb (v/v)
1,3,5-Trimethylbenzene	ND	0.50	ppb (v/v)
Vinyl chloride	ND	0.50	ppb (v/v)
m-Xylene & p-Xylene	ND	0.50	ppb (v/v)
o-Xylene	ND	0.50	ppb (v/v)

(Continued on next page)

Rutgers Organics Corporation

Client Sample ID: AGAC-F-2-20-07

GC/MS Volatiles

Lot-Sample #...: A7B210221-006 Work Order #...: JPR8G1AA Matrix.....: AA

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
1,2-Dichloroethane-d4	106	(70 - 130)
Toluene-d8	102	(70 - 130)
4-Bromofluorobenzene	98	(70 - 130)

Client ID: A7B210221-1 Influent 2-20-07

Lab ID: L0010913-0001

PARAMETER	UNITS	RESULT	LIMIT OF QUANTITATION	TEST METHOD	TEST DATE	ANALYST
<u>PESTICIDE ANALYSIS</u>						
KEPONE	ug/L	U 0.042	0.042	SOP 6.2	4-Mar-07	TA
PHOTOMIREX	ug/L	U 0.006	0.006	SOP 6.2	4-Mar-07	TA
MIREX	ug/L	0.148	0.002	SOP 6.2	4-Mar-07	TA

Client ID: A7B210221-2 LGAC 2-3-2-20-07

Lab ID: L0010913-0002

PARAMETER	UNITS	RESULT	LIMIT OF QUANTITATION	TEST METHOD	TEST DATE	ANALYST
<u>PESTICIDE ANALYSIS</u>						
KEPONE	ug/L	U 0.042	0.042	SOP 6.2	4-Mar-07	TA
PHOTOMIREX	ug/L	U 0.006	0.006	SOP 6.2	4-Mar-07	TA
MIREX	ug/L	U 0.002	0.002	SOP 6.2	4-Mar-07	TA

Client ID: A7B210221-3 Outfall 2-20-07

Lab ID: L0010913-0003

PARAMETER	UNITS	RESULT	LIMIT OF QUANTITATION	TEST METHOD	TEST DATE	ANALYST
<u>PESTICIDE ANALYSIS</u>						
KEPONE	ug/L	U 0.042	0.042	SOP 6.2	4-Mar-07	TA
PHOTOMIREX	ug/L	U 0.006	0.006	SOP 6.2	4-Mar-07	TA
MIREX	ug/L	U 0.002	0.002	SOP 6.2	4-Mar-07	TA

Chain of Custody Record

SEVERN
TRENT

STL

Severn Trent Laboratories, Inc.

56

STL-4124 (0901)

Client Rutgers Organics Corp.		Project Manager Dr. Rainer Domalski		Date 2-20-07	Chain of Custody Number 334995
Address 201 Struble Rd.		Telephone Number (Area Code)/Fax Number (814) 231-9200 (814) 238-5383		Lab Number	Page 1 of 1
City State College	State PA	Zip Code 16801	Site Contact Denny Lane	Analysis (Attach list if more space is needed)	
Project Name and Location (State) Salem, Ohio Site			Lab Contact	Special Instructions/ Conditions of Receipt	
Contract/Purchase Order/Quote No.			Camera/Waybill Number		

Sample I D No. and Description (Containers for each sample may be combined on one line)			Matrix					Containers & Preservatives						TSS, TDS	MPK	SVOC	Pesticide	BOD	VOC's	COC, NH3	TOC	Cyanide	Iron & Mer	Special Instructions/ Conditions of Receipt
Date	Time	Air	Aqueous	Sed	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH													
Influent 2-20-07	2-20-07	1300		X			X						1	2										
LGAC 2-3-2-20-07	2-20-07	1300		X			X						1	2										
Outfall 2-20-07	2-20-07	1300		X			X						1	2	2	2	1							
Influent 2-20-07 GLW	2-20-07	1300		X					X								3							
LGAC 2-3-2-20-07	2-20-07	1300		X					X								3							
Outfall 2-20-07	2-20-07	1300		X					X								3							
Outfall 2-20-07	2-20-07	1300		X				X									2	1	2					
Outfall 2-20-07	2-20-07	1300		X						X											1			
Outfall 2-20-07	2-20-07	1300		X					X													1		

Possible Hazard Identification			Sample Disposal			(A fee may be assessed if samples are retained longer than 1 month)		
<input type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input type="checkbox"/> Unknown	<input type="checkbox"/> Return To Client	<input type="checkbox"/> Disposal By Lab	<input type="checkbox"/> Archive For _____ Months	
Turn Around Time Required			QC Requirements (Specify)					
<input type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	<input type="checkbox"/> 7 Days	<input type="checkbox"/> 14 Days	<input type="checkbox"/> 21 Days	<input type="checkbox"/> Other _____			
1 Relinquished By Gerald Wilhelm			Date 2-20-07			Time 1500		
2 Relinquished By			Date			Time		
3 Relinquished By			Date			Time		
Comments								

DISTRIBUTION: WHITE - Returned to Client with Report. CANARY - Stays with the Sample. PINK - Field Copy

STL North Canton

ATTACHMENT 4

**TWO ACUTE TOXICITY EVALUATIONS
FEBRUARY 20 THRU 24, 2007
NEASE CHEMICAL SITE, SALEM, OHIO**

RESULTS OF TWO ACUTE TOXICITY EVALUATIONS OF
RUTGERS ORGANICS CORPORATION,
SALEM SITE LAGOON WATER TREATMENT PLANT
FINAL EFFLUENT

AAT JOB # 51 - 01 – 80

20 February – 24 February 2007

Report Prepared for:

Rutgers Organics Corporation
201 Struble Road
State College, Pennsylvania 16801

Report Prepared by:

AMERICAN AQUATIC TESTING, INC.
890 NORTH GRAHAM STREET
ALLENTOWN, PENNSYLVANIA 18109

INTRODUCTION

A set of two static acute toxicity tests were conducted with larval fathead minnows, *Pimephales promelas* (*P. promelas*) and the freshwater cladoceran, *Ceriodaphnia dubia* (*C. dubia*) to determine the relative toxicity of final effluent from the Rutgers Organics Corporation Lagoon Water Treatment Plant, Salem, Ohio. The 96-hour static fathead acute toxicity test and the 48-hour static *C. dubia* acute toxicity tests were conducted from 20 February through 24 February 2007. The toxicity evaluations were conducted by American Aquatic Testing, Inc., Allentown, Pennsylvania.

All tests were performed according to procedures outlined in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, 4th Edition (EPA/600/4-90/027F) and Reporting and Testing Guidance for Biomonitoring Required by the Ohio Environmental Protection Agency, October 1991.

MATERIALS

TEST ORGANISMS

Fathead Minnow, *Pimephales promelas*

Larval fathead minnows used in acute testing were obtained from in-house cultures maintained by ABS, Inc.. Test age organisms are maintained in shallow depth basins containing 10L of moderately hard reconstituted water and are fed newly hatched *Artemia* (brine shrimp) nauplii twice a day up until test initiation. The test organisms were 8 days old at test initiation. No acclimation of these test organisms was required as they were raised in moderately hard reconstituted water, which was used for testing.

Freshwater Cladoceran, *Ceriodaphnia dubia*

Cladoceran neonates, *C. dubia* were obtained from AAT, Inc.'s in-house cultures. Cultures for generating test age (<24 hours old) neonates are maintained as single cultures in 30 mL soufflé cups containing 15 mL of moderately hard reconstituted water. These adults are transferred daily into fresh culture water and are fed a combination of a unicellular green alga (*Selenastrum capricornutum*) and a yeast/Cerophyll/trout chow (YCT) suspension. Broods released during a five hour period were pooled and used to initiate the acute toxicity test. No acclimation of these test organisms was required as they were raised in moderately hard reconstituted water, which was used for testing. Neonates were released between 0800 and 1300 of February 20, 2007

DILUTION WATER

Moderately hard reconstituted water was prepared in accordance to procedures outlined in EPA/600/4-90/027F and was used as dilution/control water for the toxicity tests. Deionized water (Specialty Filtration Products) and reagent grade chemicals were used to achieve the following concentrations 96 mg/L of NaHCO₃, 60.0 mg/L of MgSO₄ and 4.0 mg/L of KCl and 60.0mg/L of CaSO₄ 2H₂O.

TEST MATERIAL

The material tested was final effluent collected by Howells and Baird personnel with a grab sampler placed at the outfall. One grab sample was collected for each of the two acute toxicity tests. The sample, collected February 19, 2007, was shipped overnight to AAT, Inc. in a cooler containing ice and was used to initiate testing on February 20, 2007. A Chain-of-Custody accompanied the sample. Tests were initiated prior to the expiration of the 36-hour holding time.

METHODS

P. promelas larvae (8 day old) were exposed to the effluent sample for 96 hours under static, non-renewal conditions. Test organisms were exposed in groups of 10 in 1 L glass beakers containing 500 mL of test solution with two replicates per concentration (20 organisms per concentration). The test organisms were fed prior to test initiation and at 48 hours.

C. dubia neonates (<24 hours old) were exposed to the effluent sample for 48 hours under static non-renewal conditions. Test organisms were exposed in groups of five in 30 mL soufflé cups containing 15 mL of test solution with four replicates per concentration (20 organisms per concentration). The test organisms were not fed during the test exposure.

Both sets of test chambers were placed in randomized positions in a temperature controlled environment maintained at 25 ± 1 ° C. The highest concentration used for exposure was 100 %. A 0.56 dilution schedule was used to prepare sample concentrations of 56%, 32%, 18% and 10%, by volume. A control sample consisting of 100 % dilution water was also tested.

Surviving test organisms were counted daily. Dead test organisms and debris were removed daily at this time. Temperature was measured daily in a surrogate replicate placed alongside the test chambers. Dissolved oxygen, pH and conductivity were measured in one replicate chamber at each concentration at the beginning and end of the test exposure. Alkalinity and hardness were measured in the control and the 100% concentration at the beginning of the test exposure. The lighting regime was 16 hours light, 08 hours dark.

RESULTS

FATHEAD MINNOW 96-HOUR ACUTE TEST RESULTS

As a result of less than 50 % mortality in any test concentration during the exposure period the acute data was evaluated visually. Therefore, the 96-hour LC_{50} is > 100%. This result yields an Acute Toxic Unit; TUa ($100\%/LC_{50}$) of 1.0.

CERIODAPHNIA DUBIA 48-HOUR ACUTE TEST RESULTS

As a result of less than 50 % mortality in any test concentration during the exposure period the acute data was evaluated visually. Therefore, the 48-hour LC_{50} is > 100%. This result yields an Acute Toxic Unit; TUa ($100\%/LC_{50}$) of 1.0.

Table I. Fathead Minnow Mortality Data

CLIENT: Rutgers Organics Corp., Salem Lagoon Water Treatment Plant
 TEST: 96-hour Definitive Acute Toxicity Test
 DATE: 20 February – 24 February 2007

Sample Type	% Effluent	# of Organisms	Cumulative number of organisms affected at				% Mortality*
			24 hr	48 hr	72 hr	96 hr	
Final Effluent	0	20	0	0	0	0	0
	10	20	0	0	0	1	5
	18	20	0	2	2	3	15
	32	20	0	0	0	0	0
	56	20	0	2	3	3	15
	100	20	0	0	0	0	0

* Cumulative Percent Mortality at 96 hours

Table II. Fathead Minnow Physical/Chemical Measurements

CLIENT: Rutgers Organics Corp., Salem Lagoon Water Treatment Plant
 TEST: 96-hour Definitive Acute Toxicity Test
 DATE: 20 February – 24 February 2007

Time	% Effluent by Volume					
	0	10	18	32	56	100
0 hour						
Conduct. μ mhos	299	352	399	469	615	842
D.O. ppm	8.3	8.3	7.9	7.8	7.2	5.9
Temp. °C A	24.0	24.0	24.5	24.5	25.0	25.0
B	24.0	24.0	24.5	24.5	25.0	25.0
pH Std .units	7.8	7.8	7.9	8.0	8.1	8.2
Alkalinity mg/L	60					210
Hardness mg/L	90					320
24 hours A	25.0	25.0	25.0	25.0	25.0	25.0
Temp. °C B	25.0	25.0	25.0	25.0	25.0	25.0
48 hours A	25.0	25.0	25.0	25.0	24.0	24.0
Temp. °C B	25.0	25.0	25.0	25.0	24.0	24.0
72 hours A	24.5	24.5	24.5	24.5	24.5	24.5
Temp. °C B	24.5	24.5	24.5	24.5	24.5	24.5
96 hours						
Conduct. μ mhos	357	400	451	538	676	943
D.O. ppm	6.9	6.6	6.6	6.6	6.5	6.3
pH Std .units	7.9	7.9	8.0	8.1	8.2	8.3
Temp. °C A	24.5	24.5	24.0	24.0	24.0	24.0
B	24.5	24.5	24.0	24.0	24.0	24.0

Table I. *Ceriodaphnia dubia* Mortality Data

CLIENT: Rutgers Organics Corp., Salem Lagoon Water Treatment Plant
 TEST: 48 hour Definitive Acute Toxicity Test
 DATE: 20 February – 22 February 2007

Sample Type	% Effluent	# of Organisms	Cumulative number of organism affected at		% Mortality*
			24 hours	48 hours	
Final Effluent	0	20	0	0	0
	10	20	0	0	0
	18	20	0	0	0
	32	20	0	0	0
	56	20	0	0	0
	100	20	0	0	0

* Cumulative Percent Mortality at 48 hours

Table II. *Ceriodaphnia dubia* Physical/Chemical Measurements

CLIENT: Rutgers Organics Corp., Salem Lagoon Water Treatment Plant
 TEST: 48 hour Definitive Acute Toxicity Test
 DATE: 20 February – 22 February 2007

Time	% Effluent by Volume					
	0	10	18	32	56	100
0 hour						
Conduct. μ mhos	299	352	399	469	615	842
D.O. ppm	8.3	8.3	7.9	7.8	7.2	5.9
Temp. °C	24.0	24.0	24.5	24.5	25.0	25.0
pH Std .units	7.8	7.8	7.9	8.0	8.1	8.2
Alkalinity mg/L	60					210
Hardness mg/L	90					320
24 hours						
Temp. °C	25.0	25.0	25.0	25.0	25.0	25.0
48 hours						
Conduct. μ mhos	375	410	459	555	696	924
D.O. ppm	8.4	8.1	8.2	8.2	8.2	8.2
pH Std .units	7.9	8.0	8.0	8.1	8.2	8.3
Temp. °C	24.0	25.0	25.0	25.0	25.0	25.0

APPENDIX I

RAW DATA

20 February – 24 February 2007

RESULTS OF TWO ACUTE TOXICITY EVALUATIONS OF
RUTGERS ORGANICS CORPORATION,
SALEM SITE LAGOON WATER TREATMENT PLANT
FINAL EFFLUENT

Freshwater Acute Test

American Aquatic Testing, Inc.

Job #: 51-01-80

Start Date/Time: 2-20-07 1610

Species: C. dubia

End Date/Time: 2/22/07 1510

Dilution Water: EPA Mod. Hard

Test Type: 48 hr. SNR

Conc. %	Temperature (C)		
	0 hr.	24 hr.	48 hr.
Control	8.3 ①	25.0	24.0
10	8.3 ①	25.0	25.0
18	7.9 ②	25.0	25.0
32	7.8 ②	25.0	25.0
56	7.2 ③	25.0	25.0
100	25.0	25.0	25.0
Conc. %	pH (Stand units)		
	0 hr.		48 hr.
Control	7.8		7.9
10	7.8		8.0
18	7.9		8.0
32	8.0		8.1
56	8.1		8.2
100	8.2		8.3
Conc.	Dissolved Oxygen (mg/L)		
	0 hr.		48 hr.
Control	8.3		8.4
10	8.3		8.1
18	7.9		8.2
32	7.8		8.2
56	7.2		8.2
100	5.9		8.2
Conc.	Conductivity (umhos)		
	0 hr.		48 hr.
Control	299		375
10	352		410
18	399		459
32	469		555
56	615		696
100	842		929
Initials	WDL		WDL
Date	2/20		2/22

Conc. %	Rep.	Live Count		
		0 hr.	24 hr.	48 hr.
Control	A	10 ④	5	5
	B	10 ④	5	5
	C	10 ④	5	5
	D	10 ④	5	5
10	A	5	5	5
	B	5	5	5
	C	5	5	5
	D	5	5	5
18	A	5	5	5
	B	5	5	5
	C	5	5	5
	D	5	5	5
32	A	5	5	5
	B	5	5	5
	C	5	5	5
	D	5	5	5
56	A	5	5	5
	B	5	5	5
	C	5	5	5
	D	5	5	5
100	A	5	5	5
	B	5	5	5
	C	5	5	5
	D	5	5	5
Initials		WDL	WDL	WDL
Date		2/20	2/21	2/22

Observations: ① 24.0 WDL 2/20 ② 24.5 WDL 2/20 ③ 25.0 WDL 2/20
④ 5 WDL 2/20

Conc.	Alkalinity	Hardness
Control	60	90
100%	210	320
Initials	WDL	WDL
Date	2/20	2/20

Freshwater Acute Test

American Aquatic Testing, Inc.

Job #: 51-01-80

Start Date/Time: 2-20-07 1545

Species: P. promelas

End Date/Time: 2-24-07 1445

Dilution Water: EPA Mod. Hard

Test Type: 96 hr. SNR

Concentration	Rep.	Live Count					Temperature (C)				
		0 hr.	24 hr.	48 hr.	72 hr.	96 hr.	0 hr.	24 hr.	48 hr.	72 hr.	96 hr.
Control	A	10	10	10	10	10	24.0	25.0	25.0	24.5	24.8
	B	10	10	10	10	10	24.0	25.0	25.0	24.5	24.5
10%	A	10	10	10	10	9	24.0	25.0	25.0	24.5	24.5
	B	10	10	10	10	10	24.0	25.0	25.0	24.5	24.5
18%	A	10	10	9	9	8	24.5	25.0	25.0	24.5	24.0
	B	10	10	9	9	9	24.5	25.0	25.0	24.5	24.0
32%	A	10	10	10	10	10	24.5	25.0	25.0	24.5	24.0
	B	10	10	10	10	10	24.5	25.0	25.0	24.5	24.0
56%	A	10	10	8	7	7	25.0	25.0	24.0	24.5	24.0
	B	10	10	10	10	10	25.0	25.0	24.0	24.5	24.0
100%	A	10	10	10	10	10	25.0	25.0	24.0	24.5	24.0
	B	10	10	10	10	10	25.0	25.0	24.0	24.5	24.0
Initials		WDP	WDP	WDP	WDP	WDP	WDP	WDP	WDP	WDP	WDP
Date		2/20	2/21	2/22	2/23	2/24	2/20	2/21	2/22	2/23	2/24

Concentration	pH		D.O. (mg/L)		Cond. (umhos)	
	0 hr.	96 hr.	0 hr.	96 hr.	0 hr.	96 hr.
Control	7.8	6.0	8.3	6.9	399	357
10%	7.8	7.9	8.3	6.6	352	400
18%	7.9	8.0	7.9	6.6	399	451
32%	8.0	8.1	7.8	6.6	469	538
56%	8.1	8.2	7.2	6.5	615	676
100%	8.2	8.3	5.9	6.3	842	943
Initials	WDP	NC	WDP	NC	WDP	NC
Date	2/20	2/24	2/20	2/24	2/20	2/24

Concentration	Alkalinity (mg/L)	Hardness (mg/L)
Control	60	90
100%	210	320
Initials	WDP	WDP
Date	2/20	2/20

Observations:

① 7.9 NC 2/24

APPENDIX II

OHIO EPA NPDES BIOMONITORING REPORT FORM

Date Created: 04/13/98

Page 1 of 6

Last Revised: 04/13/98

OHIO EPA NPDES BIOMONITORING REPORT FORM

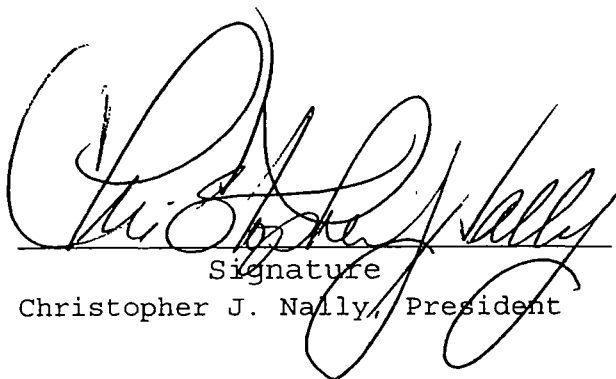
GENERAL INFORMATION

1. Facility Name: Rutgers Organics Corporation
Reporting Date: 07 March 2007
2. Address: 1224 Benton Road
Salem, Ohio 44460
Substantive
3. Ohio EPA Permit Number: Discharge Criteria 4. Application (NPDES) No.
5. Facility Contact: Ralph Pearce 6. Phone No.: (800) 458-3434
7. Consultant/Testing Lab Name: American Aquatic testing, Inc.
8. Consultant/Lab Contact: Chris Nally 9. Phone No.: (610) 434-9015
10. Receiving Water(s) of Discharge: Unnamed Tributary of the Middle Fork of Middle Creek.
11. Outfall(s) Tested: 001

Average Daily Flows:
on Day Sampled (gal/day)

12. Is your current Standard Operating Procedure (SOP) Manual on file with Ohio EPA? (Yes/No) No If yes, date submitted: _____. If no, an SOP that follows Ohio EPA and/or U.S. EPA protocols must be submitted as soon as possible in order to eliminate the need to include this information with every report.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.


Signature
Christopher J. Nally, President

03/28/07
Date

ACUTE TOXICITY TEST SAMPLING DATA

TABLE

Sampling Summary for Acute Toxicity Tests

Sampling Location & Description	Sample Collection		Weather/Receiving Stream Conditions
	Beginning MM/DD/Time	Ending MM/DD/Time	
Final Effluent:	02/19/07 1300	N/A	
Outfall No.: _____	001		
Type (Grab/Composite):	Grab		
Volume Collected:	2.5-gallon		
Upstream Station:	N/A		
Waterbody:			
Station No.:			
Type (Grab/Composite):			
Volume Collected:			
Downstream Station (Near-field):	N/A		
Waterbody:			
Station No.:			
Type (Grab/Composite):			
Volume Collected:			
Additional Stations (If needed):	N/A		
Waterbody:			
Station No.:			
Type (Grab/Composite):			
Volume Collected:			
Waterbody:			
Station No.:			
Type (Grab/Composite):			
Volume Collected:			

TOXICITY TEST CONDITIONS

TABLE

Summary of Toxicity Test Conditions	
1. Test Species and Age:	<i>Pimephales promelas</i> - 8 days old
2. Test Type and Duration:	96-hour Static Acute
3. Test Dates:	20 February - 24 February 2007
4. Test Temperature (°C):	25.0°C ± 1.0°C
5. Light Quality:	50-100 ft. candles
6. Photoperiod:	16 hours light / 8 hours dark
7. Feeding Regime:	None
8. Size of Test Vessel:	1000 mL
9. Volume and Depth of Test Solutions:	500 mL / 92 mm
10. No. of Test Organisms per Test Vessel:	Ten
11. No. of Test Vessels per Test Solution:	Two
12. Total No. of Test Organisms per Test Solution:	20
13. Test Concentrations (as percent by volume effluent):	0, 10, 18, 32, 56, and 100%
14. Renewal of Test Solutions:	None
15. Dilution and Primary Control Water:	Moderately Hard Reconstituted Water
16. Secondary Control Water:	N/A
17. Aeration? Before/During Test:	None
18. Endpoints Measured:	LC ₅₀ and TU _a
19. If secondary control water used as diluent due to toxicity in primary control water, indicate number of consecutive tests conducted with alternative diluent:	N/A

ACUTE TOXICITY TEST RESULTS

TABLE

Results of a <u>Pimephales</u> <u>promelas</u> <u>96</u> -Hour Static Acute Toxicity Test (genus) (species)								
Conducted <u>02/20/07</u> - <u>02/24/07</u> Using Effluent from Outfall <u>001</u> (mm/dd/yy) (mm/dd/yy) (number)								
Test Solutions	Cumulative Percent Mortality (Cumulative Percent Affected) ^a				LC ₅₀ Values (EC ₅₀ Values)			
	24-Hr	48-Hr	72-Hr	96-Hr	24-Hr	48-Hr	72-Hr	96-Hr
Primary Control/ Dilution Water	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	<u>>100%</u> (<u>N/A</u>)	<u>>100%</u> (<u>N/A</u>)	<u>>100%</u> (<u>N/A</u>)	<u>>100%</u> (<u>N/A</u>)
Secondary Control	<u>N/A</u> (<u> </u>)	<u> </u> (<u> </u>)	<u> </u> (<u> </u>)	<u> </u> (<u> </u>)	LC ₅₀ 95% Confidence Limits (EC ₅₀ 95% Confidence Limits)			
<u>10</u> % Effluent	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	<u>1</u> (<u>5</u>)	24-Hr	48-Hr	72-Hr	96-Hr
<u>18</u> % Effluent	<u>0</u> (<u>0</u>)	<u>2</u> (<u>10</u>)	<u>2</u> (<u>10</u>)	<u>3</u> (<u>15</u>)	LL <u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
<u>32</u> % Effluent	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	UL <u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
<u>56</u> % Effluent	<u>0</u> (<u>0</u>)	<u>2</u> (<u>10</u>)	<u>3</u> (<u>15</u>)	<u>3</u> (<u>15</u>)	LL (<u>N/A</u>)	(<u> </u>)	(<u> </u>)	(<u> </u>)
<u>100</u> % Effluent	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	UL (<u>N/A</u>)	(<u> </u>)	(<u> </u>)	(<u> </u>)
Near-Field Sample	<u>N/A</u> (<u> </u>)	<u> </u> (<u> </u>)	<u> </u> (<u> </u>)	<u> </u> (<u> </u>)	LL = Lower Limit UL = Upper Limit			
					Calculated TU _a Value: <u>1.0</u>			
					Method(s) Used to Determine LC ₅₀ , EC ₅₀ , and Confidence Limit Values: Visual Inspection			

^a-cumulative percent affected is the total percentage of test organisms observed dead, immotile, exhibiting loss of equilibrium, or other defined endpoints (specify below):

TOXICITY TEST CONDITIONS

TABLE

Summary of Toxicity Test Conditions

1. Test Species and Age:	<i>Ceriodaphnia dubia</i> - <24-hours old
2. Test Type and Duration:	48-hour Static Acute
3. Test Dates:	20 February - 22 February 2007
4. Test Temperature (°C):	25.0°C ± 1°C
5. Light Quality:	50-100 ft candles
6. Photoperiod:	16 hours light / 8 hours dark
7. Feeding Regime:	None
8. Size of Test Vessel:	30 mL
9. Volume and Depth of Test Solutions:	25 mL / 25 mm
10. No. of Test Organisms per Test Vessel:	Five
11. No. of Test Vessels per Test Solution:	Four
12. Total No. of Test Organisms per Test Solution:	20
13. Test Concentrations (as percent by volume effluent):	0, 10, 18, 32, 56, and 100%
14. Renewal of Test Solutions:	None
15. Dilution and Primary Control Water:	Moderately Hard Reconstituted Water
16. Secondary Control Water:	N/A
17. Aeration? Before/During Test:	None
18. Endpoints Measured:	LC ₅₀ and TU _a
19. If secondary control water used as diluent due to toxicity in primary control water, indicate number of consecutive tests conducted with alternative diluent:	N/A

ACUTE TOXICITY TEST RESULTS

TABLE

Results of a <u>Ceriodaphnia</u> <u>dubia</u> <u>48</u> -Hour Static Acute Toxicity Test (genus) (species)									
Conducted <u>02/20/07</u> - <u>02/22/07</u> Using Effluent from Outfall <u>001</u> . (mm/dd/yy) (mm/dd/yy) (number)									
Test Solutions	Cumulative Percent Mortality (Cumulative Percent Affected) ^a				LC ₅₀ Values (EC ₅₀ Values)				
	24-Hr	48-Hr	72-Hr	96-Hr	24-Hr	48-Hr	72-Hr	96-Hr	
Primary Control/ Dilution Water	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	()	()	<u>>100%</u> (N/A)	<u>>100%</u> (N/A)	()	()	
Secondary Control	<u>N/A</u> ()	()	()	()	LC ₅₀ 95% Confidence Limits (EC ₅₀ 95% Confidence Limits)				
<u>10</u> % Effluent	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	()	()	24-Hr	48-Hr	72-Hr	96-Hr	
<u>18</u> % Effluent	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	()	()	LL <u>N/A</u>	<u>N/A</u>			
<u>32</u> % Effluent	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	()	()	UL <u>N/A</u>	<u>N/A</u>			
<u>56</u> % Effluent	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	()	()	LL (N/A)	(N/A)	()	()	
<u>100</u> % Effluent	<u>0</u> (<u>0</u>)	<u>0</u> (<u>0</u>)	()	()	UL (N/A)	(N/A)	()	()	
Near-Field Sample	<u>N/A</u> ()	()	()	()	LL = Lower Limit UL = Upper Limit				
					Calculated TU _a Value: <u>1.0</u>				
					Method(s) Used to Determine LC ₅₀ , EC ₅₀ , and Confidence Limit Values: Visual Inspection				

^a-cumulative percent affected is the total percentage of test organisms observed dead, immotile, exhibiting loss of equilibrium, or other defined endpoints (specify below):

ATTACHMENT 5

**TWO CHRONIC TOXICITY EVALUATIONS
FEBRUARY 20 THRU 27, 2007
NEASE CHEMICAL SITE, SALEM, OHIO**

RESULTS OF TWO CHRONIC TOXICITY EVALUATIONS OF
RUTGERS ORGANICS CORPORATION,
SALEM SITE LAGOON WATER TREATMENT PLANT
FINAL EFFLUENT

AAT JOB # 51 - 01 -80

20 February – 27 February, 2007

Report Prepared for:

Rutgers Organics Corporation
201 Struble Road
State College, Pennsylvania 16801

Report Prepared by:

AMERICAN AQUATIC TESTING, INC.
890 NORTH GRAHAM STREET
ALLENTOWN, PENNSYLVANIA 18109

INTRODUCTION

A set of two 7-day daily renewal chronic toxicity tests were conducted with larval fathead minnows, *Pimephales promelas* (*P. promelas*) and the freshwater cladoceran, *Ceriodaphnia dubia* (*C. dubia*) to determine the relative toxicity of final effluent from the Rutgers Organics Corporation Lagoon Water Treatment Plant, Salem, Ohio. The larval fathead survival and growth chronic test and the *C. dubia* survival and reproduction test were conducted from 20 February through 27 February 2007. The toxicity evaluations were conducted by American Aquatic Testing, Inc., Allentown, Pennsylvania.

All tests were performed according to procedures outlined in Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, 4th Edition (EPA/600/4-90/027F), Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Third Edition (EPA/600/4-19/002) and Reporting and Testing Guidance for Biomonitoring Required by the Ohio Environmental Protection Agency, October 1991.

MATERIALS

TEST ORGANISMS

Fathead Minnow, *Pimephales promelas*

Larval fathead minnows used in chronic testing were obtained from cultures maintained in house at ABS, Inc. Test age organisms are maintained in shallow depth basins containing 10L of moderately hard reconstituted water and are fed newly hatched *Artemia* (brine shrimp) nauplii twice a day up until test initiation. The test organisms were < 48 hours old at test initiation. No acclimation of these test organisms was required as they were raised in moderately hard reconstituted water, which was used for testing.

Freshwater Cladoceran, *Ceriodaphnia dubia*

Cladoceran neonates, *C. dubia* were obtained from AAT, Inc.'s in-house cultures. Cultures for generating test age (<24 hours old) neonates are maintained as single cultures in 30 mL soufflé cups containing 15 mL of moderately hard reconstituted water. These adults are transferred daily into fresh culture water and are fed a combination of a unicellular green alga (*Selenastrum capricornutum*) and a yeast/Cerophyll/trout chow (YCT) suspension. Broods released during an 8-hour period were pooled and used to initiate the chronic toxicity test. No acclimation of these test organisms was required as they were raised in moderately hard reconstituted water, which was used for testing. Neonates were released between 0900 and 1400 of 20 February 2007.

DILUTION WATER

Moderately hard reconstituted water was prepared in accordance to procedures outlined in EPA/600/4-90/027F and was used as dilution/control water for the toxicity tests. Deionized water (Specialty Filtration Products) and reagent grade chemicals were used to achieve the following concentrations: 96 mg/L of NaHCO₃, 60.0 mg/L of MgSO₄ and 4.0 mg/L of KCl and 60.0mg/L of CaSO₄ 2H₂O.

TEST MATERIAL

The material tested was final effluent collected by Howells and Baird personnel with a grab sampler placed at the outfall. Three grab samples were collected for each of the two chronic toxicity tests.

The sample collected February 19, 2007 was used for the two chronic tests starting February 20, 2007 and for Day 2. The sample collected February 21, 2007 was used for renewal for Days 3 and 4. The sample collected February 23, 2007 was used for renewal for Days 5,6 and 7. Chain-of-Custody forms accompanied the sample. Tests were initiated prior to the expiration of the 36-hour holding time.

METHODS

P. promelas larvae (<48 hours old) were exposed to the effluent samples for seven days under static, daily renewal conditions. Test organisms were exposed in groups of 10 in 1 L glass beakers containing 500 mL of test solution with four replicates per concentration (40 organisms per concentration). The test organisms were fed twice each day with *Artemia nauplii* from test initiation until day six. The test organisms were not fed for the last 16 hours of the test. Daily observations were made during test material exchange and the numbers of live animals were recorded on the appropriate benchsheets. Any dead animals were removed from the test chambers.

The fathead larval test was terminated at the end of seven days. All live test organisms from each replicate chamber were counted, rinsed with deionized water and transferred as a group to a pre-weighed aluminum pan. Pans with test organisms were dried at 105.0 °C for a minimum of six hours before being placed in a dessicator to cool. Each pan was weighed to the nearest 0.01 mg and the average test organism weight was determined by dividing by the original number of test organisms present (10).

C. dubia neonates (<24 hours old) were exposed to the effluent sample for six days under static, renewal conditions. Test organisms were exposed individually in 30 mL soufflé cups containing 15 mL of test solution with 10 replicates per concentration (10 organisms per concentration). At test material renewal, the test organisms were fed a combination of YCT (yeast, Cerophyll and trout-chow) and the green alga, *S. capricornutum*, daily during the test exposure. Daily observations of the number of live animals were made as well as the number of neonates produced and recorded on the appropriate benchsheets.

The *C. dubia* test was terminated at seven days. The total number of neonates produced at each concentration was divided by the number of adult test organisms present to determine the average number of neonates produced.

Both sets of test chambers were placed in randomized positions in a temperature controlled environment maintained at 25 ± 1 °C for the duration of the test exposure period. The highest concentration used for exposure was 100 %. A 0.30 dilution schedule was used to prepare sample concentrations of 30%, 10%, 3% and 1%, by volume. A control sample consisting of 100 % dilution water was also tested.

RESULTS

FATHEAD MINNOW SURVIVAL AND GROWTH

An NOEC (No-Observable-Effect-Concentration) value of >100% for survival was produced. An NOEC value of >100% for growth was produced. As a result, the TUC for this test is 1.0 (100%/NOEC), for the growth endpoint.

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION

An NOEC value of 100% for survival was produced. An NOEC value of 100% for reproduction was produced. As a result, the TUC for this test is 1.0 (100%/NOEC), for the reproduction endpoint.

Table I. Fathead Minnow Physical/Chemical Measurements Summary
 CLIENT: Rutgers Organics Corp., Salem Lagoon Water Treatment Plant
 TEST: 7-Day Chronic Toxicity Test
 DATE: 20 February -27 February 2007

CONC.	Temp. ° C		pH Std. Units		D. O. ppm		Cond. µmhos	
	Min	Max	Min	Max	Min	Max	Min	Max
Control	24.0	25.0	7.8	8.2	7.0	8.3	296	302
1%	24.0	25.0	7.8	8.1	6.8	8.3		
3%	24.0	26.0	7.8	8.2	6.7	8.3		
10%	24.0	26.0	7.9	8.2	6.8	8.4		
30%	24.5	25.5	7.9	8.2	6.9	8.3		
100%	24.0	25.5	7.9	8.4	6.0	7.5	746	859

SAMPLE	Alkalinity mg/L		Hardness mg/L		Chlorine mg/L	
	0 %	100 %	0 %	100 %	0 %	100 %
01	60	210	90	320	0	0.00
02	70	210	100	350	0	0.00
03	70	180	100	380	0	0.01

Table II. *Ceriodaphnia dubia* Physical/Chemical Measurements Summary
 CLIENT: Rutgers Organics Corp., Salem Lagoon Water Treatment Plant
 TEST: 7-Day Chronic Toxicity Test
 DATE: 20 February -27 February 2007

CONC.	Temp. ° C		pH Std. Units		D. O. ppm		Cond. µmhos	
	Min	Max	Min	Max	Min	Max	Min	Max
Control	24.0	25.5	7.8	8.3	8.0	8.3	296	302
1%	24.0	25.5	7.8	8.3	8.0	8.4		
3%	24.0	25.5	7.8	8.4	7.9	8.4		
10%	24.0	25.5	7.9	8.4	7.9	8.4		
30%	24.0	25.5	7.9	8.5	7.5	8.4		
100%	24.5	25.5	7.9	8.6	6.0	8.4	746	859

SAMPLE	Alkalinity mg/L		Hardness mg/L		Chlorine mg/L	
	0 %	100 %	0 %	100 %	0 %	100 %
01	60	210	90	320	0	0.00
02	70	210	100	350	0	0.00
03	70	180	100	380	0	0.01

APPENDIX I

RAW DATA

RESULTS OF TWO CHRONIC TOXICITY EVALUATIONS OF
RUTGERS ORGANICS CORPORATION,
SALEM SITE LAGOON WATER TREATMENT PLANT
FINAL EFFLUENT

20 February -27 February 2007

Project Number: 51-01-80Beginning Date & Time: 2-20-07 1510Ending Date & Time: 2-27-07 1530***Ceriodaphnia dubia*, Survival and Reproduction Test**

American Aquatic Testing, Inc.,

Survival / Reproduction Data

Day	Conc.		Replicate										Initials
	<u>Control</u>		1	2	3	4	5	6	7	8	9	10	
1	N	B	0	0	0	0	0	0	0	0	0	0	MRP
2	N	B	0	0	0	0	0	0	0	0	0	0	MRP
3	N	B	0	0	0	0	0	0	0	0	0	0	MRP
4	N	B	5	6	8	7	7	6	7	6	7	7	MRP
5	N	B	0	0	0	0	0	0	0	13	2	0	MRP
6	N	B	9	2	10	2	10	2	9	2	7	2	MRP
7	N	B	11	3	14	3	12	3	15	3	17	3	MRP
8	N	B											
Tot N	Tot B		25	3	30	3	30	3	31	3	30	3	Tot A
													10

Average Neonates per Female = 30.2 % Females with 3rd Brood = 100

Day	Conc.		Replicate										Initials
	<u>1%</u>		1	2	3	4	5	6	7	8	9	10	
1	N	B	0	0	0	0	0	0	0	0	0	0	MRP
2	N	B	0	0	0	0	0	0	0	0	0	0	MRP
3	N	B	0	0	0	0	0	0	0	0	0	0	MRP
4	N	B	6	6	7	8	7	6	7	3	7	6	MRP
5	N	B	0	0	0	0	0	0	0	0	0	11	MRP
6	N	B	12	2	11	2	11	2	8	2	11	2	MRP
7	N	B	14	3	11	3	13	3	14	3	15	3	MRP
8	N	B											
Tot N	Tot B		32	3	31	3	31	3	32	3	35	3	Tot A
													10

Average Neonates per Female = 30.0 % Females with 3rd Brood = 100

Day	Conc.		Replicate										Initials
	<u>3%</u>		1	2	3	4	5	6	7	8	9	10	
1	N	B	0	0	0	0	0	0	0	0	0	0	MRP
2	N	B	0	0	0	0	0	0	0	0	0	0	MRP
3	N	B	0	0	0	0	0	0	0	0	0	0	MRP
4	N	B	7	6	6	4	7	6	8	4	7	8	MRP
5	N	B	0	0	0	0	0	0	12	2	0	13	MRP
6	N	B	11	2	12	2	12	2	13	2	10	2	MRP
7	N	B	11	3	14	3	12	3	16	3	10	3	MRP
8	N	B											
Tot N	Tot B		29	3	32	3	30	3	32	3	36	3	Tot A
													10

Average Neonates per Female = 30.4 % Females with 3rd Brood = 100
(N=Neonates, B=Broods, A=Alive)

Observations:

Project Number: 51-01-80Beginning Date & Time: 2-20-07 1510Ending Date & Time: 2-27-07 1530***Ceriodaphnia dubia*, Survival and Reproduction Test**

American Aquatic Testing, Inc.,

Survival / Reproduction Data

Day	Conc.		Replicate										Initials
	10%		1	2	3	4	5	6	7	8	9	10	
1	N	B	0	0	0	0	0	0	0	0	0	0	MRP
2	N	B	0	0	0	0	0	0	0	0	0	0	MRP
3	N	B	0	0	0	0	0	0	0	0	0	0	MRP
4	N	B	6	6	7	7	7	4	4	4	6	5	MRP
5	N	B	0	0	0	0	0	0	0	0	12	10	MRP
6	N	B	10	2	14	2	0	16	2	0	14	2	MRP
7	N	B	20	3	20	3	9	2	20	3	9	2	MRP
8	N	B											
Tot N	Tot B		36	3	40	3	16	2	43	3	16	2	Tot A
													10

Average Neonates per Female = 29.8% Females with 3rd Brood = 70

Day	Conc.		Replicate										Initials
	30%		1	2	3	4	5	6	7	8	9	10	
1	N	B	0	0	0	0	0	0	0	0	0	0	MRP
2	N	B	0	0	0	0	0	0	0	0	0	0	MRP
3	N	B	0	0	0	0	0	0	0	0	0	0	MRP
4	N	B	4	4	6	7	6	6	6	7	7	7	MRP
5	N	B	0	0	0	0	0	0	0	0	0	13	MRP
6	N	B	12	2	12	2	12	2	14	2	10	2	MRP
7	N	B	14	3	12	3	12	3	18	3	14	3	MRP
8	N	B											
Tot N	Tot B		30	3	28	3	30	3	39	3	30	3	Tot A
													10

Average Neonates per Female = 31.5% Females with 3rd Brood = 90

Day	Conc.		Replicate										Initials
	100%		1	2	3	4	5	6	7	8	9	10	
1	N	B	0	0	0	0	0	0	0	0	0	0	MRP
2	N	B	0	0	0	0	0	0	0	0	0	0	MRP
3	N	B	0	0	0	0	0	0	0	0	0	0	MRP
4	N	B	7	6	5	6	5	5	7	7	7	5	MRP
5	N	B	0	0	0	0	0	0	0	0	0	12	MRP
6	N	B	13	2	11	2	11	2	9	2	13	2	MRP
7	N	B	13	3	11	3	13	3	15	3	13	3	MRP
8	N	B											
Tot N	Tot B		33	3	28	3	29	3	30	3	29	3	Tot A
													10

Average Neonates per Female = 30.4% Females with 3rd Brood = 100

(N=Neonates, B=Broods, A=Alive)

Observations:

Species:

Ending Date & Time:

Initial Readings

Parameter	Concentration	1	2	3	4	5	6	7	8
Temperature (°C)	Control	24.0	25.0	25.0	25.0	24.0	25.0	25.0	
	1%	24.0	25.0	25.0	25.0	24.0	25.0	25.0	
	3%	24.0	25.0	25.0	25.0	24.0	25.0	25.0	
	10%	24.0	25.0	25.0	25.0	24.0	25.0	25.0	
	30%	24.5	25.0	25.0	25.0	24.5	25.0	25.0	
	100%	25.0	25.0	25.0	25.0	25.0	25.0	25.0	
Dissolved Oxygen (mg/L)	Control	8.3	8.3	8.1	8.1	8.0	8.3	8.2	
	1%	8.3	8.3	8.1	8.1	8.0	8.3	8.2	
	3%	8.3	8.3	8.1	8.1	7.9	8.1	8.2	
	10%	8.3	8.4	8.0	8.0	7.9	8.1	8.2	
	30%	7.9	8.3	7.9	7.9	7.5	7.6	8.1	
	100%	6.9	7.5	6.9	6.8	6.0	6.2	7.1	
pH	Control	7.8	8.1	8.0	8.1	8.2	8.0	8.1	
	1%	7.8	8.1	8.0	8.1	8.0	8.0	8.1	
	3%	7.8	8.1	8.0	8.2	8.1	8.0	8.1	
	10%	7.9	8.1	8.0	8.2	8.1	8.0	8.1	
	30%	8.0	8.1	8.1	8.2	8.1	7.9	8.1	
	100%	8.2	8.2	8.2	8.2	8.1	7.9	8.1	
	Initials	WJL	TAP	MKP	TAP	Y	MKP	MKP	
	Date	1/20	2/21	2/22	2/23	2/24	2/25	2/26	

Final Readings

Parameter	Concentration	1	2	3	4	5	6	7	8
Temp (°C)	Control	25.5	25.5	25.0	26.6	25.0	25.0	25.0	
	1%	25.5	25.5	25.0	26.6	26.0	25.0	25.0	
	3%	25.0	25.5	25.0	25.6	25.0	25.0	25.0	
	10%	25.0	25.5	25.0	26.5	25.0	25.0	25.0	
	30%	24.5	24.5	25.0	25.5	25.0	25.0	25.0	
	100%	24.5	25.0	25.0	25.5	25.0	25.0	25.0	
Dissolved Oxygen (mg/L)	Control	8.2	8.3	8.2	8.3	8.1	8.1	8.1	
	1%	8.2	8.4	8.2	8.3	8.1	8.1	8.1	
	3%	8.3	8.4	8.2	8.3	8.2	8.2	8.1	
	10%	8.3	8.4	8.3	8.3	8.2	8.2	8.0	
	30%	8.4	8.4	8.3	8.4	8.2	8.1	8.0	
	100%	8.4	8.4	8.3	8.4	8.2	8.0	8.0	
pH	Control	8.3	8.2	8.2	8.3	8.1	8.2	8.0	
	1%	8.2	8.2	8.2	8.3	8.2	8.2	8.0	
	3%	8.2	8.2	8.2	8.4	8.3	8.3	8.0	
	10%	8.3	8.2	8.3	8.4	8.4	8.3	8.0	
	30%	8.3	8.2	8.4	8.5	8.4	8.3	8.1	
	100%	8.5	8.5	8.6	8.6	8.5	8.5	8.3	
FWCHPAPR.wk3	Initials	Thd	NW	TAP	X	Q	MKP	WPP	
	Date	2/21	2/22	2/23	2/24	2/25	2/26	2/27	

Conductivity ($\mu\text{mhos/cm}$)		
Date	Control	100%
8/20	296	842
2/22	301	859
2/24	302	746
Initials	MPD	MPD
Alkalinity (mg/L as CaCO_3)		
Date	Control	100%
8/20	60	20
2/22	70	210
2/24	70	180
Hardness (mg/L as CaCO_3)		
Date	Control	100%
8/20	90	320
2/22	100	350
2/24	100	380
Initials	MPD	MPD

Chlorine (mg/L)		
Date	Control	100%
8/20	0.00	0.00
9/22	0.00	0.00
2/24	0.00	0.01

NaSO₄ Added (mg/L)		
Date	Control	100%

Initials	VAN	HAK
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Observations:

Ceriodaphnia Survival and Reproduction Test-7 Day Survival

Start Date: 2/20/2007 Test ID: 510180cd Sample ID: Rutgers
 End Date: 2/27/2007 Lab ID: AAT Sample Type: 24 HOUR CO
 Sample Date: Protocol: EPAF 94-EPA/600/4-91/002 Test Species: CD-Ceriodaphnia dubia
 Comments:

Conc-%	1	2	3	4	5	6	7	8	9	10
Control	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
3	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
10	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
30	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
100	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000

Conc-%	Mean	N-Mean	Resp	Not Resp	Total	N	Fisher's Exact P	1-Tailed Critical	Isotonic Mean	N-Mean
Control	1.0000	1.0000	0	10	10	10			1.0000	1.0000
1	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000
3	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000
10	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000
30	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000
100	1.0000	1.0000	0	10	10	10	1.0000	0.0500	1.0000	1.0000

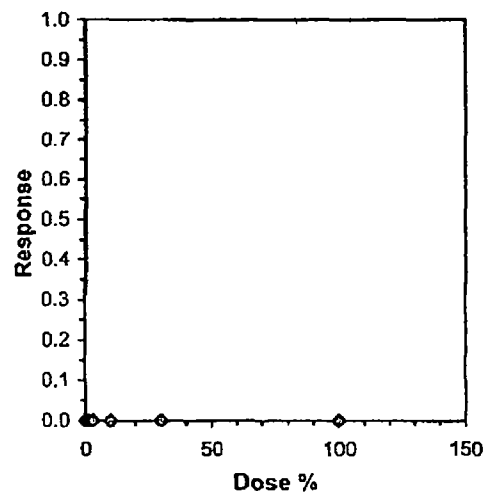
Hypothesis Test (1-tail, 0.05)

Fisher's Exact Test NOEC LOEC ChV TU

Treatments vs Control

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Ceriodaphnia Survival and Reproduction Test-Reproduction

Start Date: 2/20/2007 Test ID: 510180cd Sample ID: Rutgers
 End Date: 2/27/2007 Lab ID: AAT Sample Type: 24 HOUR CO
 Sample Date: Protocol: EPAF 94-EPA/600/4-91/002 Test Species: CD-Ceriodaphnia dubia
 Comments:

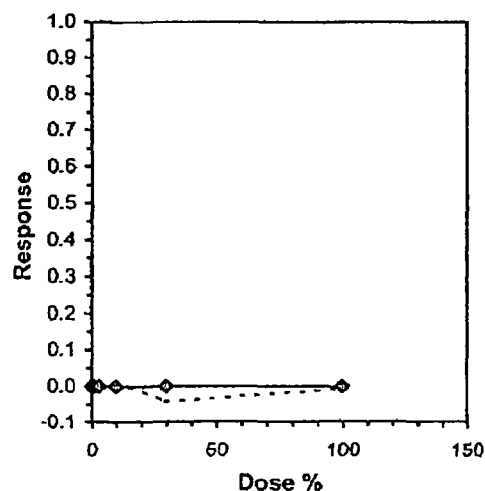
Conc-%	1	2	3	4	5	6	7	8	9	10
Control	25.000	30.000	30.000	31.000	31.000	30.000	29.000	30.000	37.000	29.000
1	32.000	27.000	31.000	30.000	31.000	32.000	35.000	19.000	35.000	28.000
3	29.000	32.000	30.000	32.000	35.000	30.000	36.000	24.000	24.000	32.000
10	36.000	40.000	16.000	43.000	16.000	12.000	34.000	38.000	34.000	29.000
30	30.000	28.000	30.000	39.000	30.000	30.000	34.000	35.000	22.000	37.000
100	33.000	28.000	29.000	30.000	29.000	31.000	33.000	29.000	33.000	29.000

Conc-%	Mean	N-Mean	Transform: Untransformed					t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%	N				Mean	N-Mean
Control	30.200	1.0000	30.200	25.000	37.000	9.723	10				30.383	1.0000
1	30.000	0.9934	30.000	19.000	35.000	15.476	10	0.078	2.287	5.879	30.383	1.0000
3	30.400	1.0066	30.400	24.000	36.000	13.176	10	-0.078	2.287	5.879	30.383	1.0000
10	29.800	0.9868	29.800	12.000	43.000	37.394	10	0.156	2.287	5.879	30.383	1.0000
30	31.500	1.0430	31.500	22.000	39.000	15.570	10	-0.506	2.287	5.879	30.383	1.0000
100	30.400	1.0066	30.400	28.000	33.000	6.431	10	-0.078	2.287	5.879	30.383	1.0000

Auxiliary Tests					Statistic	Critical	Skew	Kurt		
Kolmogorov D Test indicates non-normal distribution (p <= 0.01)					1.51049	1.035	-0.8438	2.11683		
Bartlett's Test indicates unequal variances (p = 7.67E-06)					31.4394	15.0863				
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	100	>100		1	5.87867	0.19466	3.53667	33.0463	0.9903	5, 54
Treatments vs Control										

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Client/Toxicant: SI
 Project Number: 01-80
 Species: P. promelas

Beginning Date & Time: 2-20-07 1560
 Ending Date & Time: 2/27/07 1330
 Hatch Date: 02/18/07

Chronic Test
American Aquatic Testing, Inc.
Live Count

Conc.	Rep	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Control	A	10	10	10	10	10	10	10	10
	B	10	10	10	10	10	10	10	10
	C	10	10	10	10	10	10	10	10
	D	10	10	10	10	10	10	10	10
1%	A	10	10	10	10	10	10	10	10
	B	10	10	10	10	10	9	9	9
	C	10	10	10	10	10	10	10	10
	D	10	10	10	10	10	10	10	10
3%	A	10	10	10	10	10	10	10	10
	B	10	10	10	10	10	10	10	10
	C	10	10	10	10	10	10	10	10
	D	10	10	9	9	8	8	8	8
10%	A	10	10	9	9	8	8	8	8
	B	10	10	10	10	10	10	10	10
	C	10	10	9	9	9	9	9	9
	D	10	10	10	9	9	9	9	9
30%	A	10	10	10	10	9	9	9	9
	B	10	10	10	10	10	10	10	10
	C	10	10	10	10	10	10	10	10
	D	10	10	10	10	10	10	10	10
100%	A	10	10	10	10	10	10	10	10
	B	10	10	10	10	10	10	10	10
	C	10	10	10	9	9	9	9	9
	D	10	10	10	10	10	10	10	10
	A								
	B								
	C								
	D								
Initials	<div> <div>MP</div> <div>MP</div> <div>MP</div> <div>MP</div> <div>MP</div> <div>MP</div> <div>MP</div> <div>MP</div> <div>MP</div> </div>								
Date	<div> <div>2/20</div> <div>2/21</div> <div>2/22</div> <div>2/23</div> <div>2/24</div> <div>2/25</div> <div>2/26</div> <div>2/27</div> <div>2/28</div> </div>								

Observations:

Client/Toxicant: 51
 Project Number: 01-80
 Species: P. promelas

Beginning Date & Time: 2-20-07 1560
 Ending Date & Time: 2/27/07 1330
 Hatch Date: 02/18/07

Chronic Test
 American Aquatic Testing, Inc.
 Weight Data

% Conc.	Rep	Pan #	A weight of boat (g)	B weight of boat & fish (g)	(B-A)*1000=C dry weight of fish (mg)	D # of surviving fish	C/D mean dry weight (mg)	C/E IC ₂₅ & NOEC calc. weight (mg)
Control	A	1	0.00820	0.01202	3.82	10	0.382	0.382
	B	2	0.00808	0.01245	4.37	10	0.437	0.437
	C	3	0.00809	0.01143	3.34	10	0.334	0.334
	D	4	0.00740	0.01089	3.49	10	0.349	0.349
1	A	5	0.00753	0.01107	3.54	10		0.354
	B	6	0.00746	0.01120	3.74	9		0.374
	C	7	0.00707	0.01131	4.24	10		0.424
	D	8	0.00681	0.01052	3.71	10		0.371
3	A	9	0.00724	0.01108	3.84	10		0.384
	B	10	0.00780	0.01157	3.77	10		0.377
	C	11	0.00670	0.01079	4.09	10		0.409
	D	12	0.00858	0.01249	3.91	8		0.391
10	A	13	0.00769	0.01077	3.08	8		0.308
	B	14	0.00809	0.01163	3.54	10		0.354
	C	15	0.00796	0.01188	3.92	9		0.392
	D	16	0.00825	0.01202	3.76	9		0.376
30	A	17	0.00817	0.01203	3.86	9		0.386
	B	18	0.00761	0.01175	4.14	10		0.414
	C	19	0.00728	0.01188	4.60	10		0.460
	D	20	0.00760	0.01153	3.93	10		0.393
100	A	21	0.00693	0.01093	4.00	10		0.400
	B	22	0.00758	0.01179	4.21	10		0.421
	C	23	0.00663	0.00998	3.35	9		0.335
	D	24	0.00676	0.01107	4.31	10		0.431
	A							
	B							
	C							
	D							
Initials			W	thd	thd	W	thd	thd
Date			2/21	2/28/07	2/28/07	2/21	2/28/07	2/28/07

E = Original number of organisms at test initiation, adjusted for losses.

Observations: 0.377 ER 2/28/07
0.377

Species:

Ending Date & Time:

Initial Readings

Parameter	Concentration	1	2	3	4	5	6	7	8
Temp (°C)	Control	24.0	25.0	25.0	25.0	24.0	25.0	25.0	
	1%	24.0	25.0	25.0	25.0	24.0	25.0	25.0	
	3%	24.0	25.0	25.0	25.0	24.0	25.0	25.0	
	10%	24.0	25.0	25.0	25.0	24.0	25.0	25.0	
	30%	24.5	25.0	25.0	25.0	24.5	25.0	25.0	
	100%	25.0	25.0	25.0	25.0	26.0	25.0	25.0	
Dissolved Oxygen (mg/L)	Control	8.3	8.3	8.1	8.1	8.0	8.3	8.2	
	1%	8.3	8.3	8.1	8.1	8.0	8.3	8.2	
	3%	8.3	8.3	8.1	8.1	7.9	8.1	8.2	
	10%	8.3	8.4	8.0	8.0	7.9	8.1	8.2	
	30%	7.9	8.3	7.9	7.9	7.5	7.6	8.1	
	100%	6.9	7.5	6.9	6.8	6.0	6.2	7.1	
pH	Control	7.8	8.1	8.0	8.1	8.2	8.0	8.1	
	1%	7.8	8.1	8.0	8.1	8.0	8.0	8.1	
	3%	7.8	8.1	8.0	8.2	8.1	8.0	8.1	
	10%	7.9	8.1	8.0	8.2	8.1	8.0	8.1	
	30%	8.0	8.1	8.1	8.2	8.1	7.9	8.1	
	100%	8.2	8.2	8.2	8.2	8.1	7.9	8.1	
	Initials	WAP	thd	MKD	TPP	W	MPP	MPP	
	Date	2/20	2/21	2/22	2/23	2/24	2/25	2/26	

Final Readings

Parameter	Concentration	1	2	3	4	5	6	7	8
Temp (°C)	Control	24.5	24.5	24.5	24.5	25.0	25.0	25.5	
	1%	24.5	24.5	24.5	24.5	25.0	25.0	25.5	
	3%	24.5	24.5	24.5	24.5	25.0	24.5	26.0	
	10%	24.5	24.5	24.5	24.5	25.0	25.5	26.0	
	30%	24.5	24.5	25.0	24.5	25.0	24.5	25.5	
	100%	24.5	24.5	25.0	24.5	25.0	24.5	25.5	
Dissolved Oxygen (mg/L)	Control	7.5	7.5	7.3	7.0	7.4	7.5	7.3	
	1%	7.5	7.3	7.3	6.8	7.4	7.5	7.3	
	3%	7.5	7.3	7.1	6.7	7.4	7.5	7.1	
	10%	7.7	7.3	7.3	6.8	7.5	7.5	7.2	
	30%	7.7	7.3	7.3	6.9	7.4	7.5	7.1	
	100%	7.3	7.2	7.3	6.4	7.2	7.3	7.2	
pH	Control	7.9	8.0	8.0	8.0	8.0	8.1	7.9	
	1%	7.9	8.0	8.0	8.0	7.9	8.0	7.9	
	3%	7.9	7.9	8.0	8.0	7.9	8.0	7.9	
	10%	7.9	7.9	8.0	8.0	7.9	8.0	8.0	
	30%	8.0	8.0	8.2	8.1	8.0	8.1	8.1	
	100%	8.4	8.2	8.5	8.3	8.3	8.4	8.3	
FWCHPAPR.wk3	Initials	Hrd	MKD	TRD	LX	9/14	MKD	NAL	
	Date	2/21	2/22	2/23	2/24	6/25	2/6	2/27	

Conductivity ($\mu\text{mhos/cm}$)		
Date	Control	100%
9/20	296	842
2/22	301	859
2/24	302	746
Initials	VDM	VDM
Alkalinity (mg/L as CaCO_3)		
Date	Control	100%
9/20	60	90
2/22	70	210
2/24	70	180
Hardness (mg/L as CaCO_3)		
Date	Control	100%
9/20	90	320
2/22	100	350
2/24	100	380
Initials	VDM	VDM

Chlorine (mg/L)		
Date	Control	100%
2/20	0.00	0.00
2/22	0.00	0.00
2/24	0.00	0.01
NaSO ₄ Added (mg/L)		
Initials	WAC	WAC

Observations:

Larval Fish Growth and Survival Test-7 Day Survival

Start Date: 2/20/2007 Test ID: 510180pp Sample ID: Rutgers
 End Date: 2/27/2007 Lab ID: AAT Sample Type: PREPARED
 Sample Date: Protocol: EPAF 94-EPA/600/4-91/002 Test Species: PP-Pimephales promelas
 Comments:

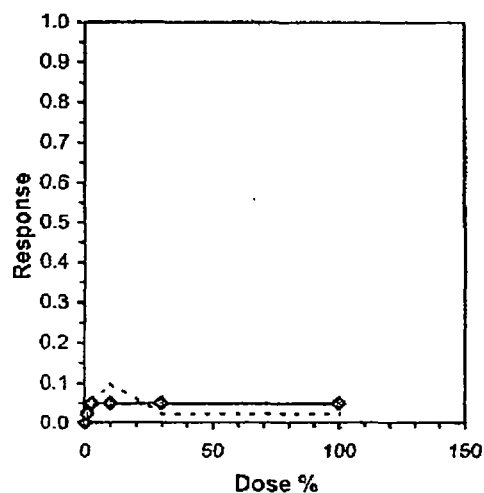
Conc-%	1	2	3	4
Control	1.0000	1.0000	1.0000	1.0000
1	1.0000	0.9000	1.0000	1.0000
3	1.0000	1.0000	1.0000	0.8000
10	0.8000	1.0000	0.9000	0.9000
30	0.9000	1.0000	1.0000	1.0000
100	1.0000	1.0000	0.9000	1.0000

Conc-%	Transform: Arcsin Square Root							1-Tailed		Isotonic	
	Mean	N-Mean	Mean	Min	Max	CV%	N	t-Stat	Critical	MSD	Mean
Control	1.0000	1.0000	1.4120	1.4120	1.4120	0.000	4				1.0000
1	0.9750	0.9750	1.3713	1.2490	1.4120	5.942	4	0.583	2.410	0.1685	0.9750
3	0.9500	0.9500	1.3358	1.1071	1.4120	11.411	4	1.090	2.410	0.1685	0.9500
10	0.9000	0.9000	1.2543	1.1071	1.4120	9.935	4	2.255	2.410	0.1685	0.9500
30	0.9750	0.9750	1.3713	1.2490	1.4120	5.942	4	0.583	2.410	0.1685	0.9500
100	0.9750	0.9750	1.3713	1.2490	1.4120	5.942	4	0.583	2.410	0.1685	0.9500

Auxiliary Tests					Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates non-normal distribution (p <= 0.01)					0.85889	0.884	-1.0455	1.0141		
Equality of variance cannot be confirmed										
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	100	>100		1	0.07836	0.08037	0.01161	0.00978	0.35399	5, 18
Treatments vs Control										

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



Larval Fish Growth and Survival Test-7 Day Biomass

Start Date: 2/20/2007 Test ID: 510180pp Sample ID: Rutgers
 End Date: 2/27/2007 Lab ID: AAT Sample Type: PREPARED
 Sample Date: Protocol: EPAF 94-EPA/600/4-91/002 Test Species: PP-Pimephales promelas
 Comments:

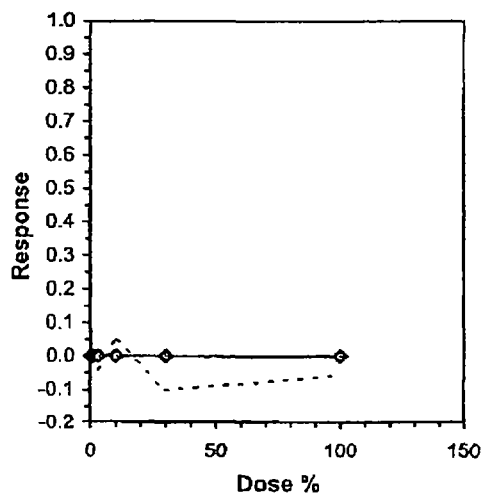
Conc-%	1	2	3	4
Control	0.3820	0.4370	0.3340	0.3490
1	0.3540	0.3740	0.4240	0.3710
3	0.3840	0.3770	0.4090	0.3910
10	0.3080	0.3540	0.3920	0.3770
30	0.3860	0.4140	0.4600	0.3930
100	0.4000	0.4210	0.3350	0.4310

Conc-%	Mean	N-Mean	Transform: Untransformed				N	t-Stat	1-Tailed Critical	MSD	Isotonic	
			Mean	Min	Max	CV%					Mean	N-Mean
Control	0.3755	1.0000	0.3755	0.3340	0.4370	12.154	4				0.3857	1.0000
1	0.3808	1.0140	0.3808	0.3540	0.4240	7.918	4	-0.210	2.410	0.0602	0.3857	1.0000
3	0.3903	1.0393	0.3903	0.3770	0.4090	3.522	4	-0.590	2.410	0.0602	0.3857	1.0000
10	0.3578	0.9527	0.3578	0.3080	0.3920	10.249	4	0.710	2.410	0.0602	0.3857	1.0000
30	0.4133	1.1005	0.4133	0.3860	0.4600	8.073	4	-1.510	2.410	0.0602	0.3857	1.0000
100	0.3968	1.0566	0.3968	0.3350	0.4310	10.875	4	-0.850	2.410	0.0602	0.3857	1.0000

Auxiliary Tests					Statistic	Critical	Skew	Kurt		
Shapiro-Wilk's Test indicates normal distribution ($p > 0.01$)					0.98632	0.884	0.0374	-0.4054		
Bartlett's Test indicates equal variances ($p = 0.61$)					3.56512	15.0863				
Hypothesis Test (1-tail, 0.05)	NOEC	LOEC	ChV	TU	MSDu	MSDp	MSB	MSE	F-Prob	df
Dunnett's Test	100	>100		1	0.06025	0.16045	0.00145	0.00125	0.36656	5, 18
Treatments vs Control										

Linear Interpolation (200 Resamples)

Point	%	SD	95% CL(Exp)	Skew
IC05	>100			
IC10	>100			
IC15	>100			
IC20	>100			
IC25	>100			
IC40	>100			
IC50	>100			



890 North Graham St.
ALLENTOWN, PA 18109
610 434 9015

Job #: 51-01-80

Client:

Address:

Phone #:

Howells: Baird
Rutgers Organics
Salem Ohio

Client Contact:

CHAIN OF CUSTODY

Denny Lane

Sample	Return to client	[]
--------	------------------	-----

Disposal: Lab disposal ☒

Samples were:

1. Collected by AAT personnel ☐ 2. Transported on ice? 3. Received with in holding time? 4. Sample matrix is: Liquid ☒ Sediment ☐
Client personnel ☒ Yes ☒ No ☐ Yes ☐ No ☐ Soil ☐ Other ☐

[illegible]

890 North Graham St.
ALLENTOWN, PA 18109
610 434 9015

Job #: 51-01-80

Client:

Address:

Phone #:

Howells: Baird
Rutgers Organics
Salem, Ohio

Client Contact:

CHAIN OF CUSTODY

Denny Lane

Sample	Return to client	<input type="checkbox"/>
Disposal:	Lab disposal	<input checked="" type="checkbox"/>

[illegible]

Samples were:

1. Collected by AAT personnel
Client personnel

[1]

2. Transported on ice?

Yes ☒ No ☐

3. Received with in holding time?

Yes [] No []

4. Sample matrix is:

Liquid ☒ Sediment []Soil ☐ Other ☐

CUSTODY INFORMATION									Lab Use
Sample #	Relinquished by:	Received by:	Date	Time	Relinquished by:	Received for Lab:	Date	Time	ISTN#
02	DENNY LANE	Fed ex	2-21-07	1500	Fed ex	T. Pallaso	2/22/07	845	07143
Special Instructions: Dilution water collection date(s) / N/A					Will ammonia be analyzed on these samples? Yes <input checked="" type="radio"/> No <input type="radio"/>				
					Will additional parameters be analyzed on these samples? Yes <input type="radio"/> No <input checked="" type="radio"/>				

890 North Graham St.
ALLENTOWN, PA 18109
610 434 9015

Job #: 51-01-80

Client:

Address:

Phone #:

Howells & Baird
Rutgers Organics
Salem Ohio
(330) 332-4834

Client Contact:

CHAIN OF CUSTODY

Denny Lane

Sample Return to client []

Disposal: Lab disposal ☒

[illegible]

Samples were:

1. Collected by AAT personnel
Client personnel

[]

2. Transported on ice?

~~1~~

Yes ☒ No ☐

3. Received within holding time?

Yes ☒ No ☐

4. Sample matrix is:

Liquid ☒ Sediment ☐

Soil ☐ Other ☐[illegible]

APPENDIX II

OHIO EPA NPDES BIOMONITORING REPORT FORM

Date Created: 5/24/91
Last Revised: 9/23/91

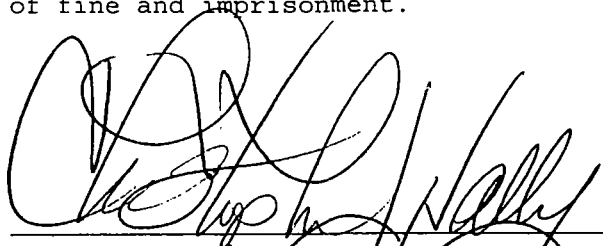
Page 1 of 5

OHIO EPA NPDES BIOMONITORING REPORT FORM

GENERAL INFORMATION

1. Facility Name: Ruetgers-Nease Corporation
Reporting Date: March 6, 2007
2. Address: 1224 Benton Road
Salem, Ohio 44460
3. Ohio EPA Permit Number: Substantive Discharge Criteria
4. Application (NPDES) No. _____
5. Facility Contact: Ralph Pearce 6. Phone No.: (800) 458-3434
7. Consultant/Testing Lab Name: American Aquatic Testing, Inc.
8. Consultant/Lab Contact: Chris Nally 9. Phone No.: (610) 434-9015
10. Receiving Water(s) of Discharge: Unnamed Tributary of the Middle Fork of Middle Creek.
- | | 02/19/07 | 02/21/07 | 02/23/07 |
|------------------------|------------|------------|------------|
| 11. Outfall(s) Tested: | <u>001</u> | <u>001</u> | <u>001</u> |
- Average Daily Flows:
on Day Sampled (gal/day)
12. Is your current Standard Operating Procedure (SOP) Manual on file with Ohio EPA? (Yes/No) No If yes, date submitted: _____.
If no, an SOP that follows Ohio EPA and/or U.S. EPA protocols must be submitted as soon as possible in order to eliminate the need to include this information with every report.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Signature
Christopher J. Nally, President



Date

CHRONIC TOXICITY TEST SAMPLING DATA

TABLE

Sampling Summary for Chronic Toxicity Tests

Sampling Location & Description	Sample	Sample Collection		Ending	Weather/Receiving Stream Conditions
		Beginning	MM/DD/Time		
Final Effluent: Processed Water					
Outfall No.: <u>001</u>	1st	02/19/ 1300		N/A	N/A
Type (Grab/Composite): <u>Grab</u>	2nd	02/21 1300		N/A	N/A
Volume Collected: <u>2.5-gallon</u>	3rd	02/23 1230		N/A	N/A
Upstream Station:		N/A		N/A	N/A
Waterbody:	1st				
Station No.:	2nd				
Type (Grab/Composite):	3rd				
Volume Collected:					
Downstream Station (Near-field):		N/A		N/A	N/A
Waterbody:	1st				
Station No.:	2nd				
Type (Grab/Composite):	3rd				
Volume Collected:					
Downstream Station (Far-field):		N/A		N/A	N/A
Waterbody:	1st				
Station No.:	2nd				
Type (Grab/Composite):	3rd				
Volume Collected:					
Additional Stations (If needed):		N/A		N/A	N/A
Waterbody:	1st				
Station No.:	2nd				
Type (Grab/Composite):	3rd				
Volume Collected:					

TOXICITY TEST CONDITIONS

TABLE

Summary of Toxicity Test Conditions

1. Test Species and Age:	<i>Ceriodaphnia dubia</i> - 2 to 7 hrs old
2. Test Type and Duration:	3 brood Chronic Toxicity Test
3. Test Dates:	February 20 - February 27 2007
4. Test Temperature (°C):	25.0°C
5. Light Quality:	340-ft candles
6. Photoperiod:	16 hours light / 8 hours dark
7. Feeding Regime:	0.1 mL <i>Selenastrum</i> and 0.1 mL YCT daily
8. Size of Test Vessel:	30 mL
9. Volume and Depth of Test Solutions:	15 mL / 25 mm
10. No. of Test Organisms per Test Vessel:	One
11. No. of Test Vessels per Test Solution:	Ten
12. Total No. of Test Organisms per Test Solution:	Ten
13. Test Concentrations (as percent by volume effluent):	0%, 1%, 3%, 10%, 30%, and 100%
14. Renewal of Test Solutions:	Daily
15. Dilution and Primary Control Water:	Moderately Hard Reconstituted Water
16. Secondary Control Water:	N/A
17. Aeration? Before/During Test:	None
18. Endpoints Measured:	NOEC, LOEC, TU _c , ChV, LC ₅₀ , IC ₂₅
19. If secondary control water used as diluent due to toxicity in primary control water, indicate number of consecutive tests conducted with alternative diluent:	N/A

ADDITIONAL TOXICITY TEST INFORMATION

1. Submit all raw data and statistical calculations/printouts obtained during the test(s). Data must be presented in tabular form and must include all physical and/or chemical measurements recorded during the tests and sampling (e.g., temperature, conductivity, dissolved oxygen, pH, hardness, alkalinity, etc.).
2. Method(s) used to verify near-field and/or far-field sampling locations must be included if stream testing is required. Maps, sketches, and/or drawings may be used to show locations.

CONCLUSIONS/COMMENTS

Indicate below any other relevant information that may aid in the evaluation of this report. Include any deviations from your SOP that were necessary for these tests and any recent Standard Reference Toxicant (SRT) results obtained. Do these results agree with previous SRT results? Attach additional pages as needed.

Standard reference Toxicant test:Toxicant: Potassium chlorideDate: 02/12-19/07IC₂₅: 209.9 ppmAverage: 326.8 ppmUpper Limit: 441.6 ppmLower Limit: 242.1 ppmTest value +/- 2 std. Dev.: Yes

Date Created: 5/24/91
Last Revised: 9/23/91

Page 1

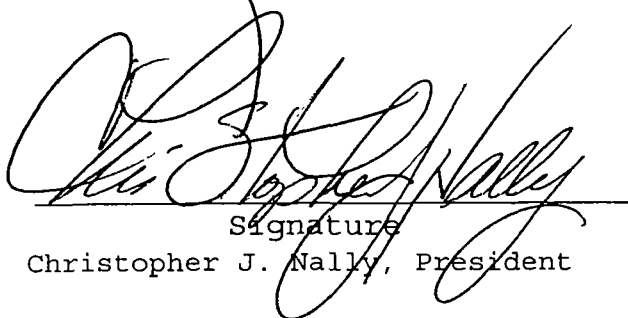
OHIO EPA NPDES BIOMONITORING REPORT FORM

GENERAL INFORMATION

1. Facility Name: Ruetgers-Nease Corporation
Reporting Date: March 6, 2007,
2. Address: 1224 Benton Road
Salem, Ohio 44460
3. Ohio EPA Permit Number: Substantive Discharge Criteria
4. Application (NPDES) No. _____
5. Facility Contact: Ralph Pearce 6. Phone No.: (800) 458-3434
7. Consultant/Testing Lab Name: American Aquatic Testing, Inc.
8. Consultant/Lab Contact: Chris Nally 9. Phone No.: (610) 434-9015
10. Receiving Water(s) of Discharge: Unnamed Tributary of the Middle Fork of Middle Creek.
11. Outfall(s) Tested:

	<u>02/19/07</u>	<u>02/21/07</u>	<u>02/23/07</u>
	<u>001</u>	<u>001</u>	<u>001</u>
- Average Daily Flows:
on Day Sampled (gal/day)
12. Is your current Standard Operating Procedure (SOP) Manual on file with Ohio EPA? (Yes/No) No If yes, date submitted: _____
If no, an SOP that follows Ohio EPA and/or U.S. EPA protocols must be submitted as soon as possible in order to eliminate the need to include this information with every report.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.


Signature
Christopher J. Nally, President

3/6/07
Date

CHRONIC TOXICITY TEST SAMPLING DATA

TABLE

Sampling Summary for Chronic Toxicity Tests

Sampling Location & Description	Sample	Sample Collection		Ending	Weather/Receiving Stream Conditions
		Beginning	MM/DD/Time		
Final Effluent: Processed Water					
Outfall No.: <u>001</u>	1st	02/19/ 1300		N/A	N/A
Type (Grab/Composite): <u>Grab</u>	2nd	02/21 1300		N/A	N/A
Volume Collected: <u>2.5-gallon</u>	3rd	02/23 1230		N/A	N/A
Upstream Station:		N/A		N/A	N/A
Waterbody:	1st				
Station No.:	2nd				
Type (Grab/Composite):	3rd				
Volume Collected:					
Downstream Station (Near-field):		N/A		N/A	N/A
Waterbody:	1st				
Station No.:	2nd				
Type (Grab/Composite):	3rd				
Volume Collected:					
Downstream Station (Far-field):		N/A		N/A	N/A
Waterbody:	1st				
Station No.:	2nd				
Type (Grab/Composite):	3rd				
Volume Collected:					
Additional Stations (If needed):		N/A		N/A	N/A
Waterbody:	1st				
Station No.:	2nd				
Type (Grab/Composite):	3rd				
Volume Collected:					

TOXICITY TEST CONDITIONS

TABLE

Summary of Toxicity Test Conditions

1. Test Species and Age:	<i>Pimephales promelas</i> - < 48-hr old
2. Test Type and Duration:	7-day Chronic Toxicity Test
3. Test Dates:	20 February – 27 February 2007
4. Test Temperature (°C):	25.0°C
5. Light Quality:	340-ft candles
6. Photoperiod:	16 hours light / 8 hours dark
7. Feeding Regime:	0.1 mL <i>Artemia</i> nauplii two times daily
8. Size of Test Vessel:	1000 mL
9. Volume and Depth of Test Solutions:	500 mL / 92 mm
10. No. of Test Organisms per Test Vessel:	Ten
11. No. of Test Vessels per Test Solution:	Four
12. Total No. of Test Organisms per Test Solution:	40
13. Test Concentrations (as percent by volume effluent):	0%, 1%, 3%, 10%, 30%, and 100%
14. Renewal of Test Solutions:	Daily
15. Dilution and Primary Control Water:	Moderately Hard Reconstituted Water
16. Secondary Control Water:	N/A
17. Aeration? Before/During Test:	None
18. Endpoints Measured	NOEC, LOEC, TU _c , ChV, LC ₅₀ , IC ₂₅
19. If secondary control water used as diluent due to toxicity in primary control water, indicate number of consecutive tests conducted with alternative diluent:	N/A

CHRONIC TOXICITY TEST RESULTS FOR *Pimephales Promelas*

TABLE

Results of a 7-day <u>Pimephales</u> <u>promelas</u> Survival and Growth Test Conducted									
(genus) (species)									
02/20/07 - 02/27/07 Using Effluent from Outfall <u>001</u>									
(mm/dd/yy) (mm/dd/yy) (number)									
Test Solutions	Cumulative Percent Mortality ^a (Cumulative Percent Adversely Affected) ^a Test Day							Dry Weight ^a	
	1	2	3	4	5	6	7	Total	Mean
Primary control/ Dilution water	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1.5020	0.3755
Secondary Control	N/A ()	()	()	()	()	()	()	N/A	N/A
<u>1 %</u> Effluent	0 (0)	0 (0)	0 (0)	0 (0)	1 (02.5)	1 (2.5)	1 (2.5)	1.5232	0.3808
<u>3 %</u> Effluent	0 (0)	1 (1.5)	1 (2.5)	2 (5)	2 (5)	2 (5)	2 (5)	1.5612	0.3903
<u>10 %</u> Effluent	0 (0)	2 (5)	3 (7.5)	4 (10)	4 (10)	4 (10)	4 (10)	1.4312	0.3578
<u>30 %</u> Effluent	0 (0)	0 (0)	0 (0)	1 (2.5)	1 (2.5)	1 (2.5)	1 (2.5)	1.6532	0.4133
<u>100 %</u> Effluent	0 (0)	0 (0)	0 (0)	1 (2.5)	1 (2.5)	1 (2.5)	1 (2.5)	1.5872	0.3968
Near-Field Sample	N/A ()	()	()	()	()	()	()	N/A	N/A
Far-Field Sample	N/A ()	()	()	()	()	()	()	N/A	N/A
NOEC Values	100 %	100 %	100 %	100 %	100 %	100 %	100 %	Calculated TUC Value for Survival: 1.00	
95% Confidence Limits	LL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	UL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
EC ₅₀ Values	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Calculated TUC Value for Reproduction: 1.00
95% Confidence Limits	LL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	UL	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
7-day NOEC for Mortality: 100%		7-day NOEC for Growth: 100%					Method(s) Used to Determine Values: Shapiro-Wilks Test Bartlett's Test		
7-day LOEC for Mortality: Not Detected		7-day LOEC for Growth: Not Detected							
Chronic Value for Mortality: 1.0		Chronic Value for Growth: 1.0							
a – indicate significant differences from the primary control with an * (p=0.05).									

ADDITIONAL TOXICITY TEST INFORMATION

1. Submit all raw data and statistical calculations/printouts obtained during the test(s). Data must be presented in tabular form and must include all physical and/or chemical measurements recorded during the tests and sampling (e.g., temperature, conductivity, dissolved oxygen, pH, hardness, alkalinity, etc.).
2. Method(s) used to verify near-field and/or far-field sampling locations must be included if stream testing is required. Maps, sketches, and/or drawings may be used to show locations.

CONCLUSIONS/COMMENTS

Indicate below any other relevant information that may aid in the evaluation of this report. Include any deviations from your SOP that were necessary for these tests and any recent Standard Reference Toxicant (SRT) results obtained. Do these results agree with previous SRT results? Attach additional pages as needed.

Standard reference Toxicant test:

Toxicant: Potassium chloride

Date: 02/20 - 27/07

IC₂₅: 557.7 ppm

Average: 570.9 ppm

Upper Limit: 694.9 ppm

Lower Limit: 446.9 ppm

Test value +/- 2 std. Dev.: YES